

Supporting information

Pyridine-bridged bifunctional organocatalysts for the synthesis of cyclic carbonates from carbon dioxide

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Totals - 26 pages, and 50 figures

1. NMR Spectra for the Organocatalysts **1a-1l**.....S2-S13
2. NMR Spectra for the Cycloaddition Products.....S14-S29

2. NMR Spectra for the Organocatalysts

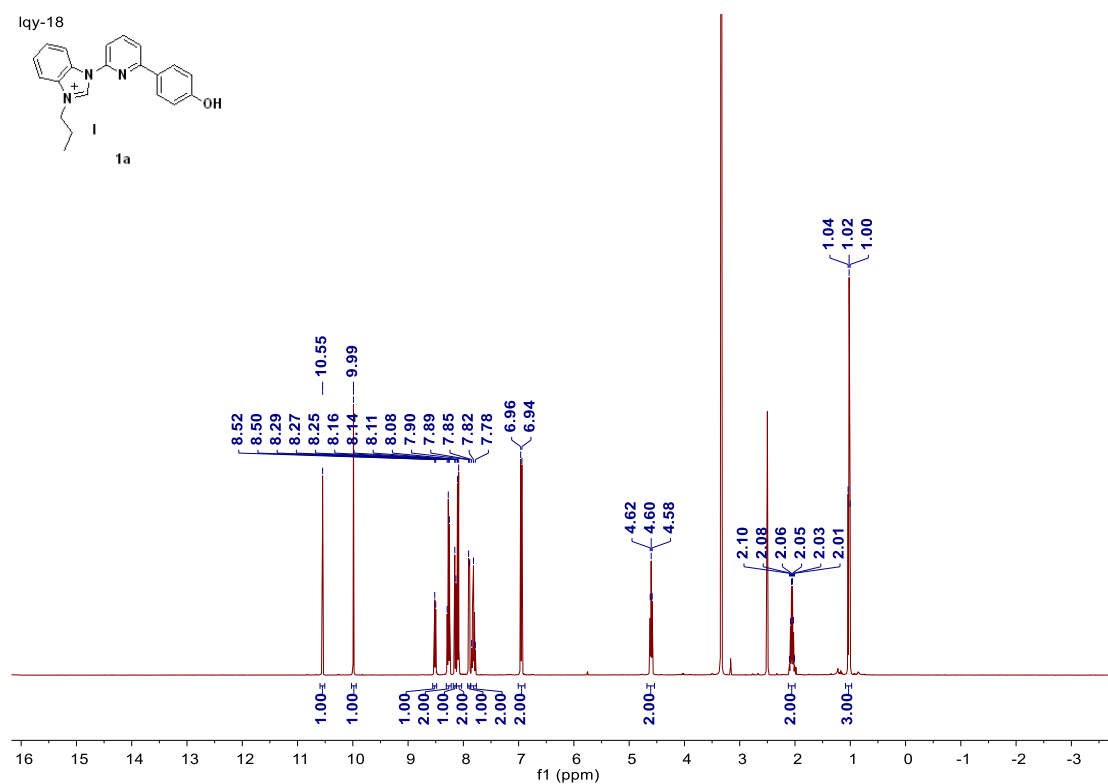


Figure S1. ^1H NMR spectra of organocatalyst **1a**.

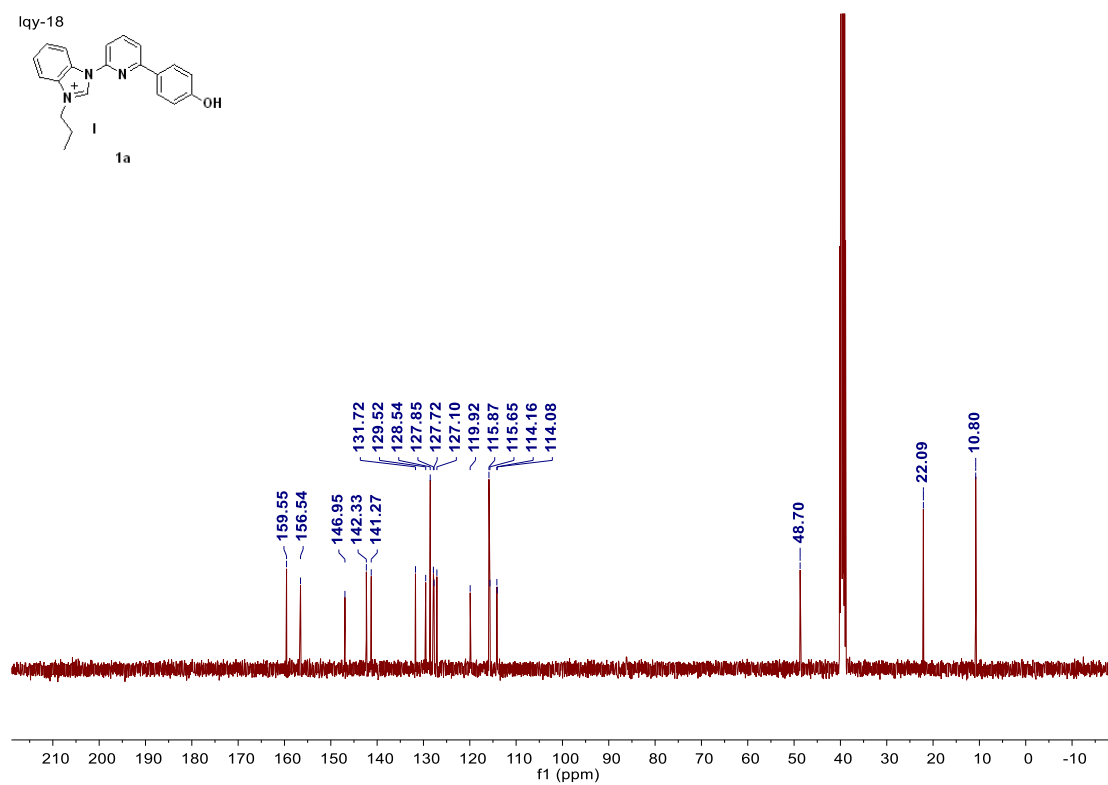


Figure S2. ^{13}C NMR spectra of organocatalyst **1a**.

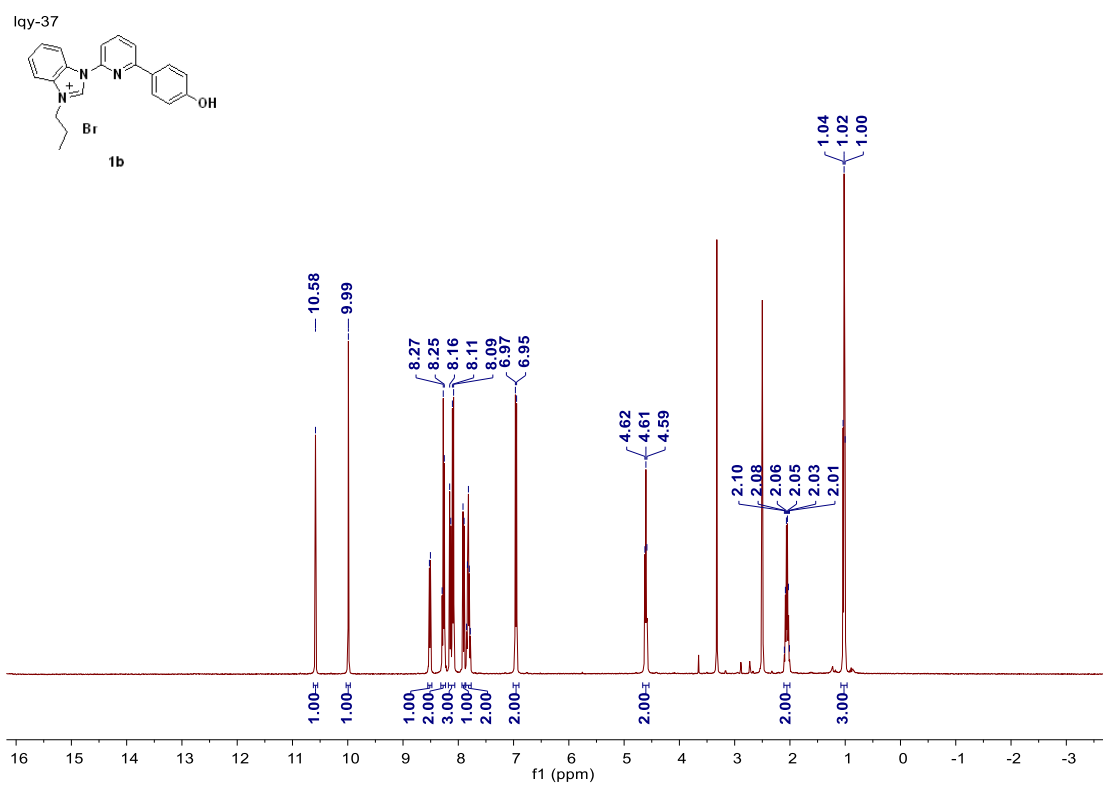


Figure S3. ¹H NMR spectra of organocatalyst **1b**.

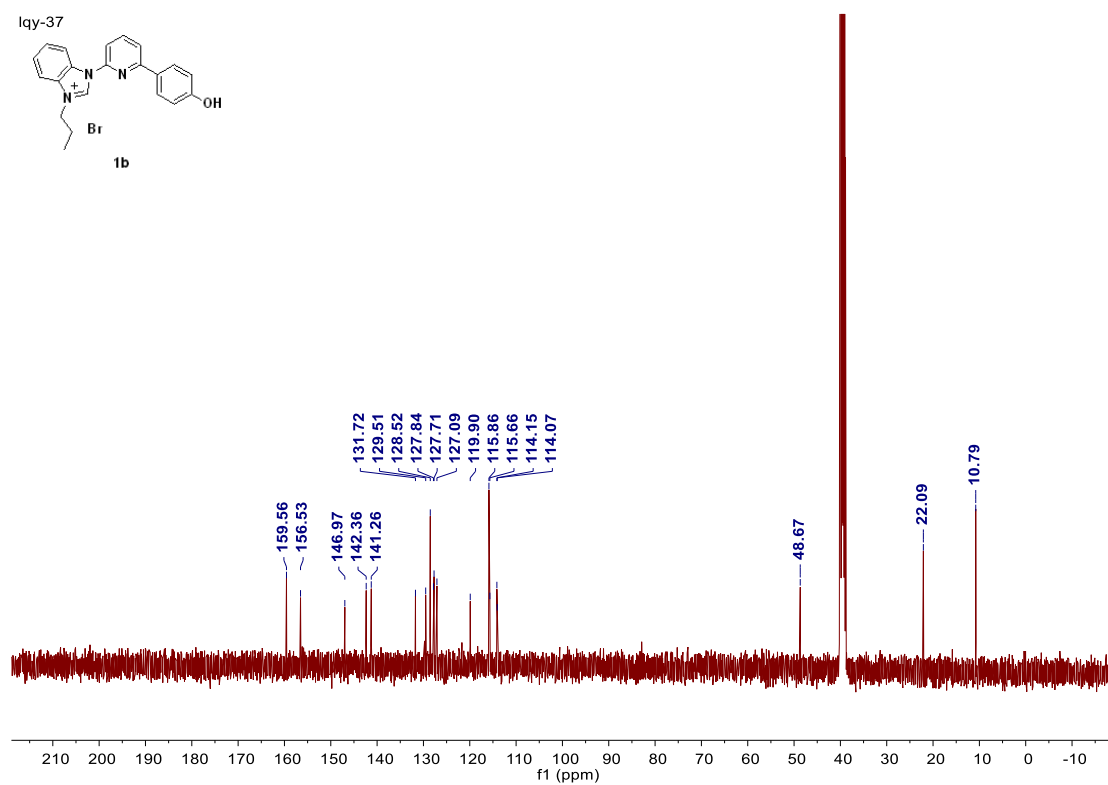


Figure S4. ¹³C NMR spectra of organocatalyst **1b**.

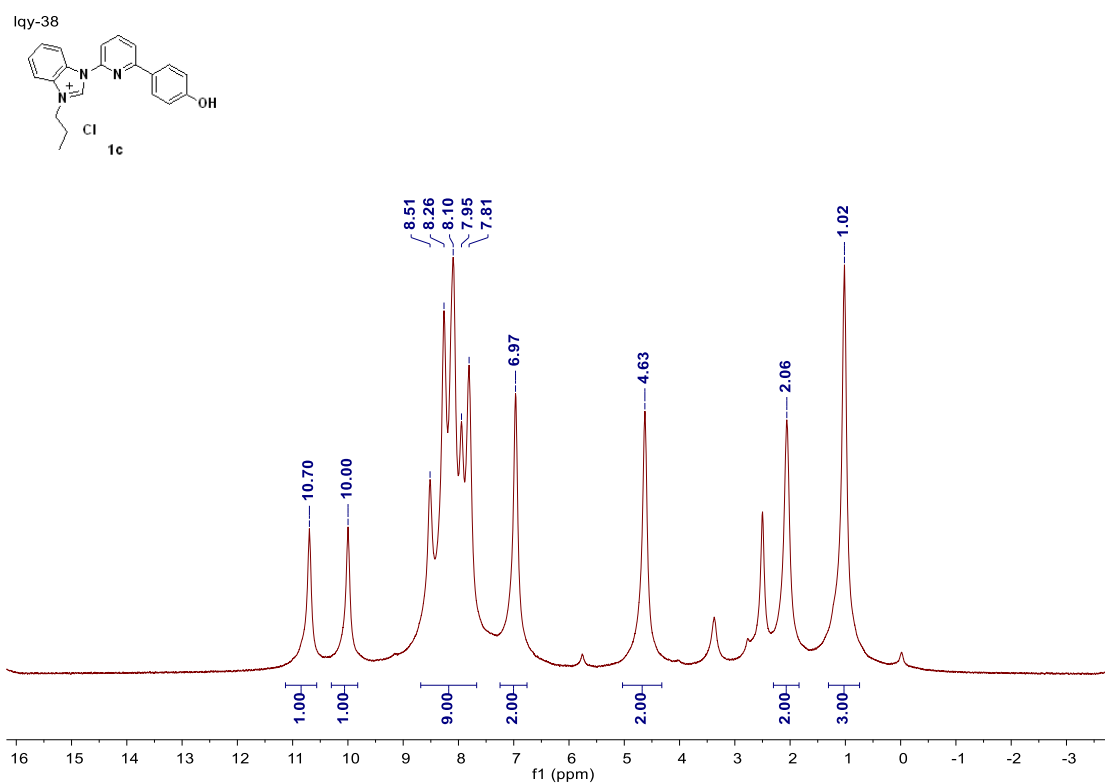


Figure S5. ¹H NMR spectra of organocatalyst **1c**.

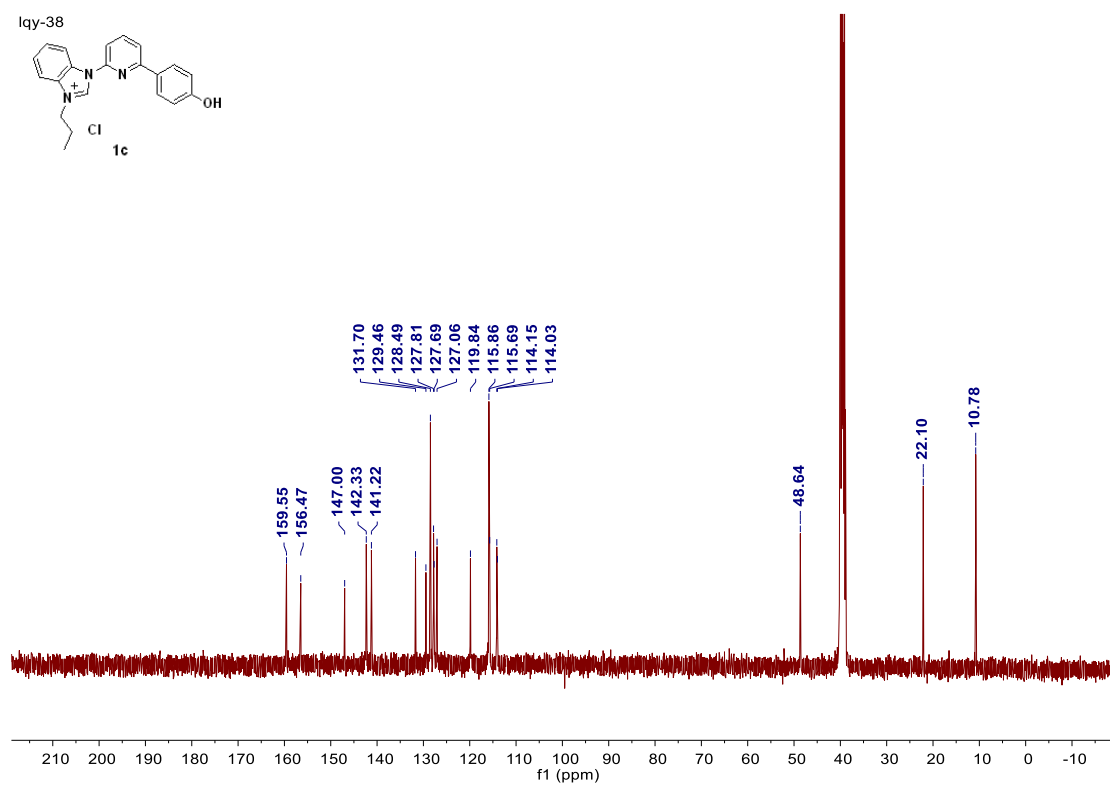


Figure S6. ¹³C NMR spectra of organocatalyst **1c**.

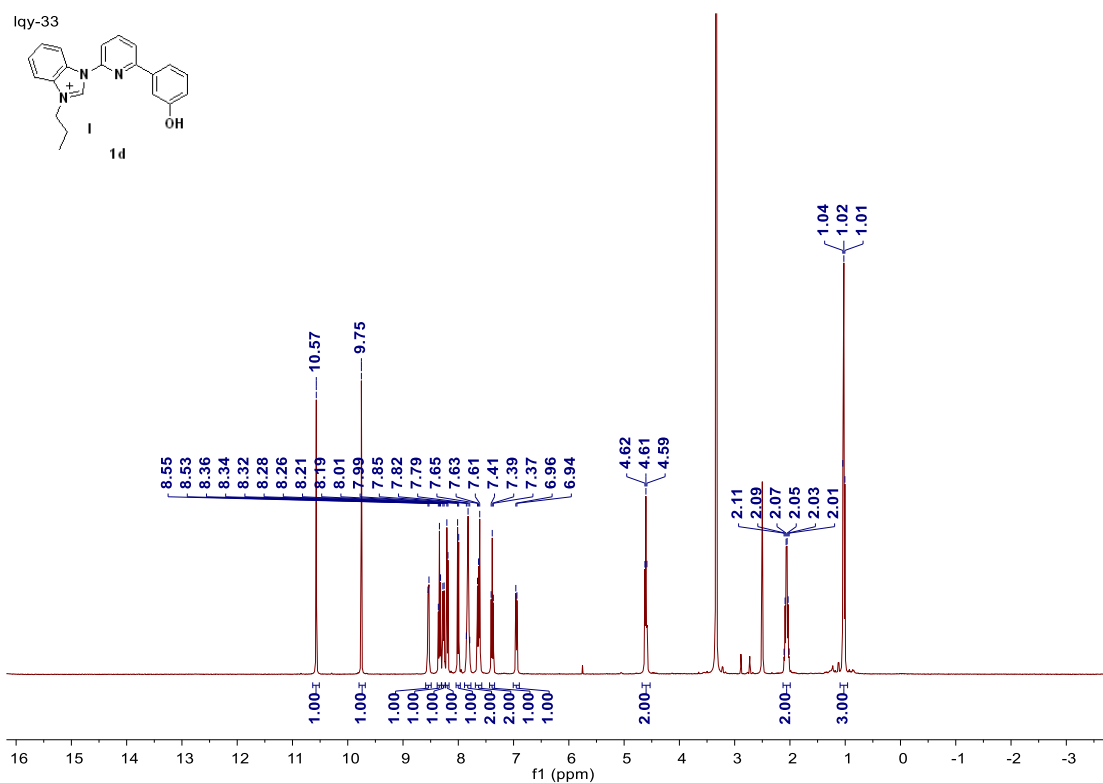


Figure S7. ¹H NMR spectra of organocatalyst **1d**.

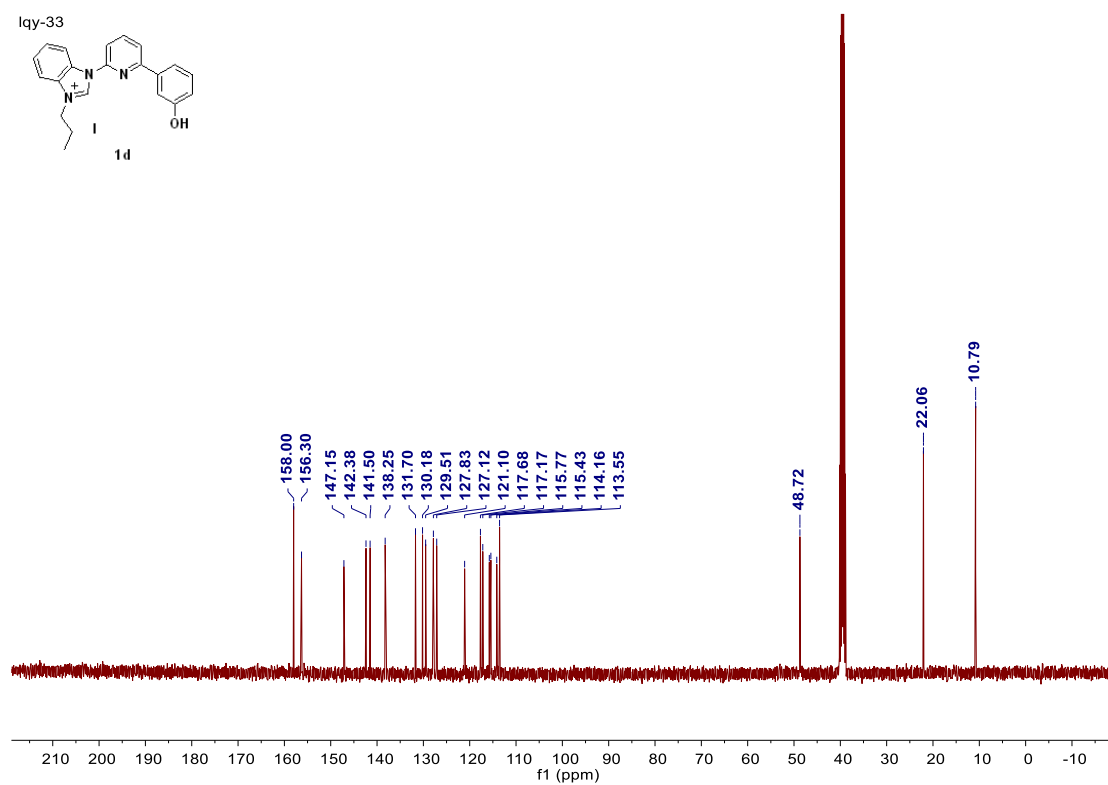


Figure S8. ¹³C NMR spectra of organocatalyst **1d**.

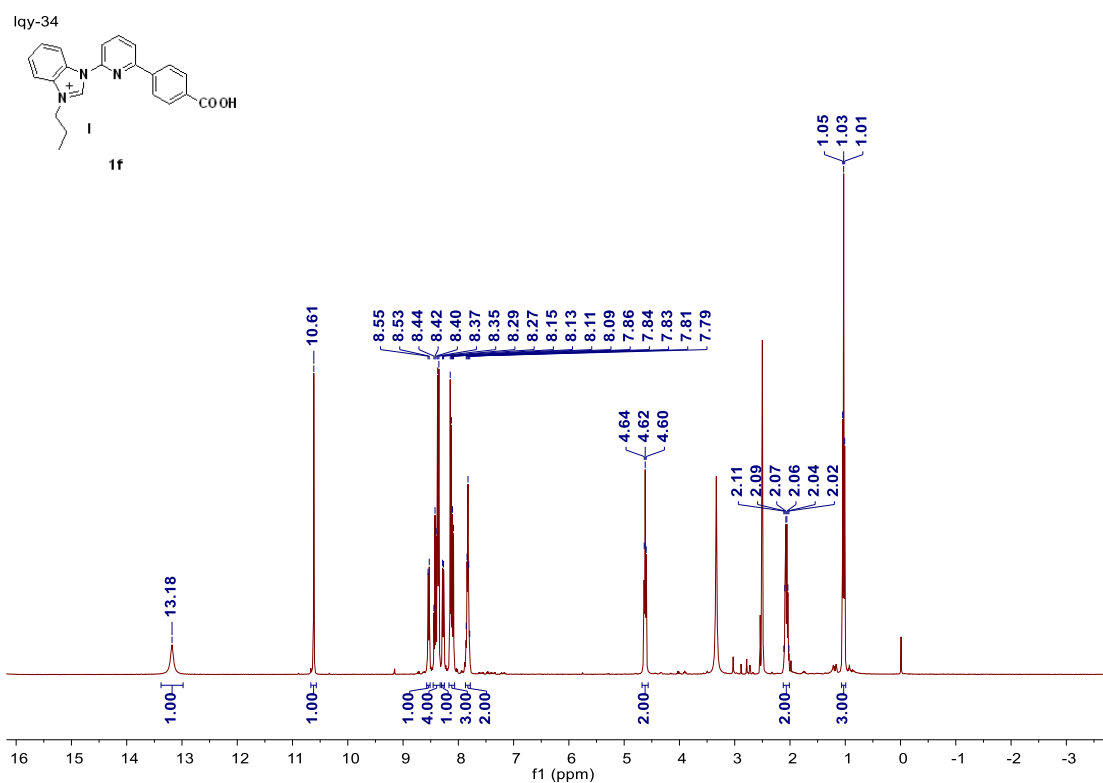


Figure S11. ^1H NMR spectra of organocatalyst **1f**.

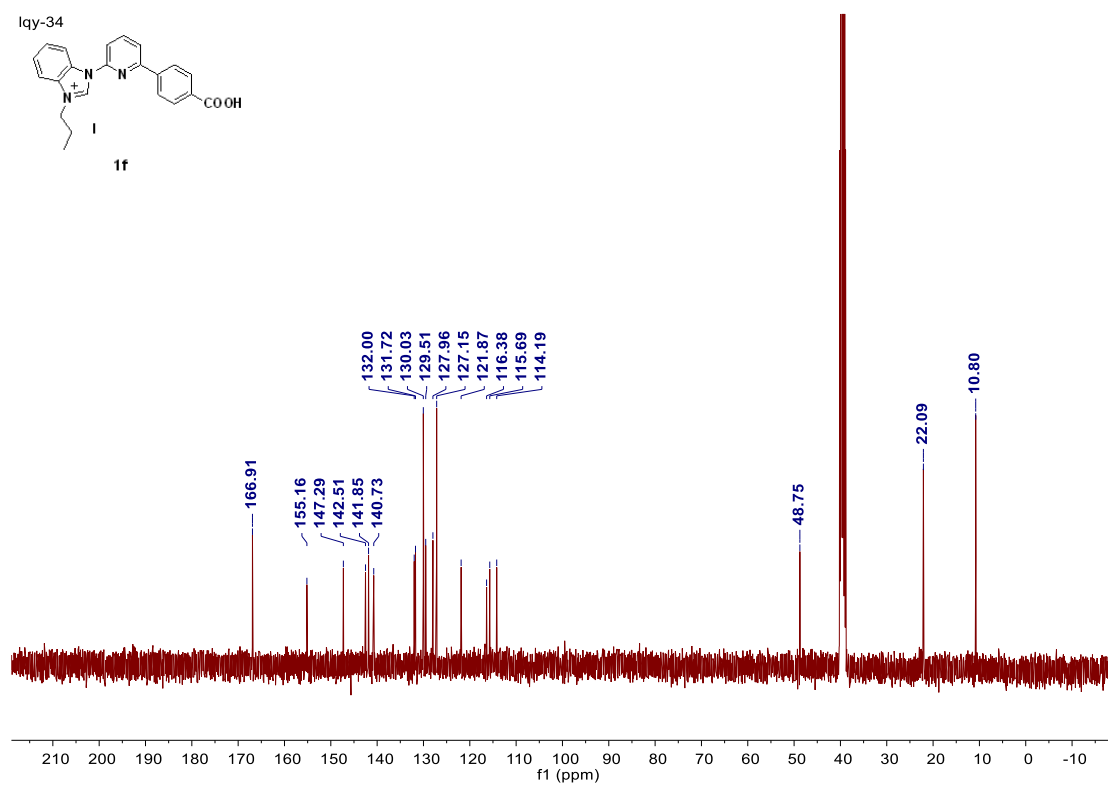


Figure S12. ^{13}C NMR spectra of organocatalyst **1f**.

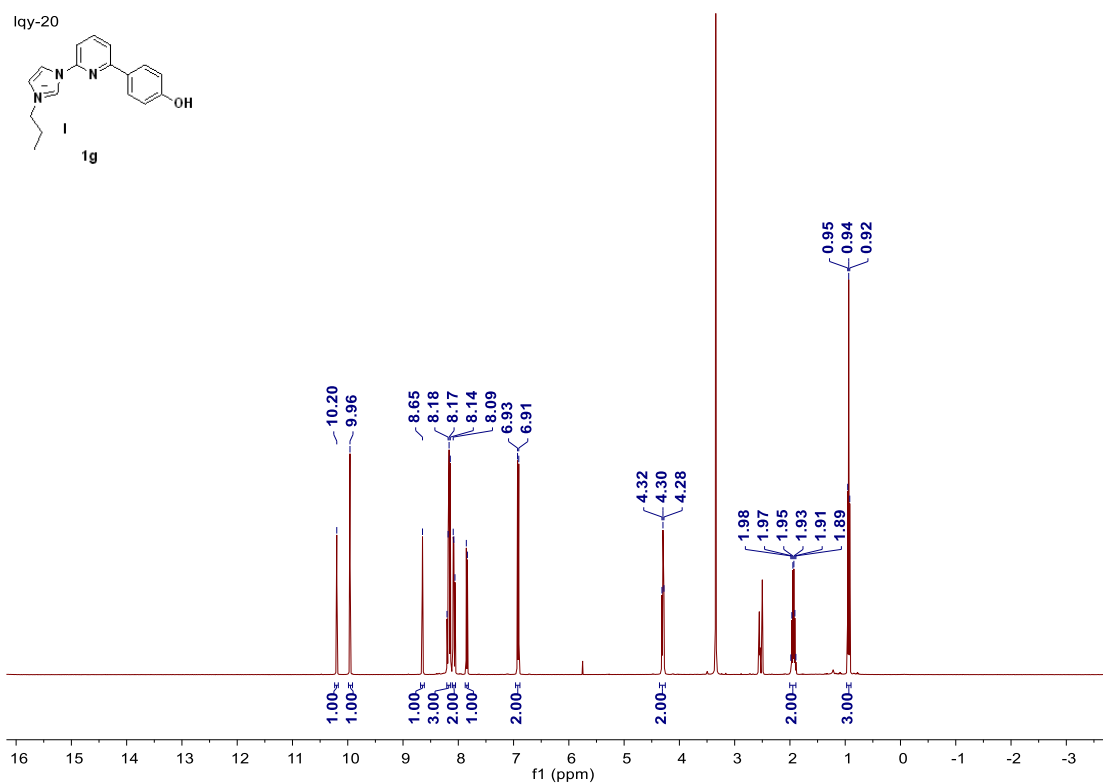


Figure S13. ¹H NMR spectra of organocatalyst **1g**.

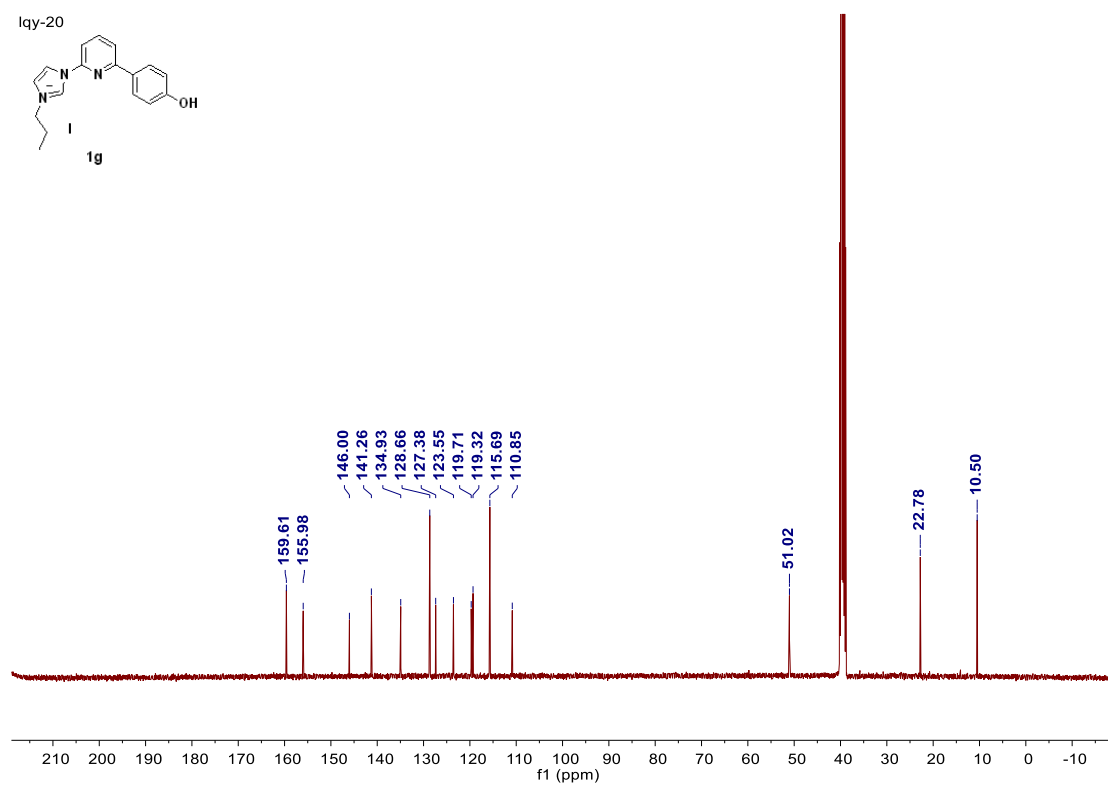


Figure S14. ¹³C NMR spectra of organocatalyst **1g**.

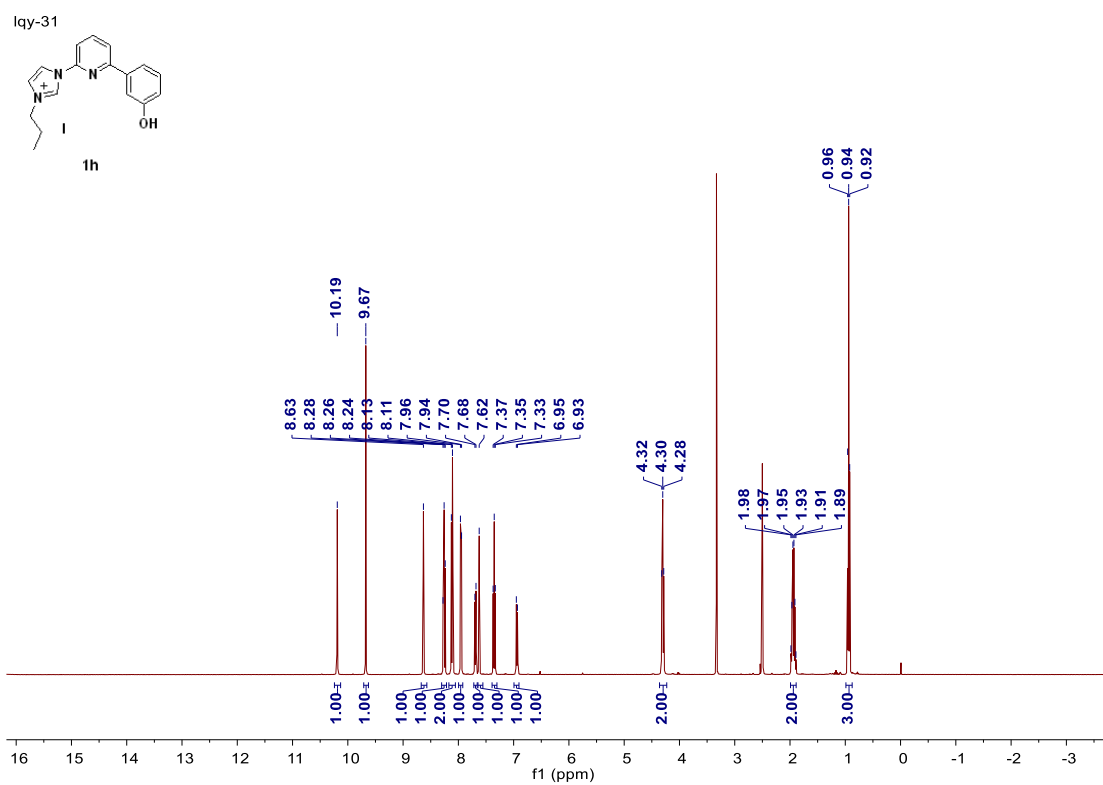


Figure S15. ¹H NMR spectra of organocatalyst **1h**.

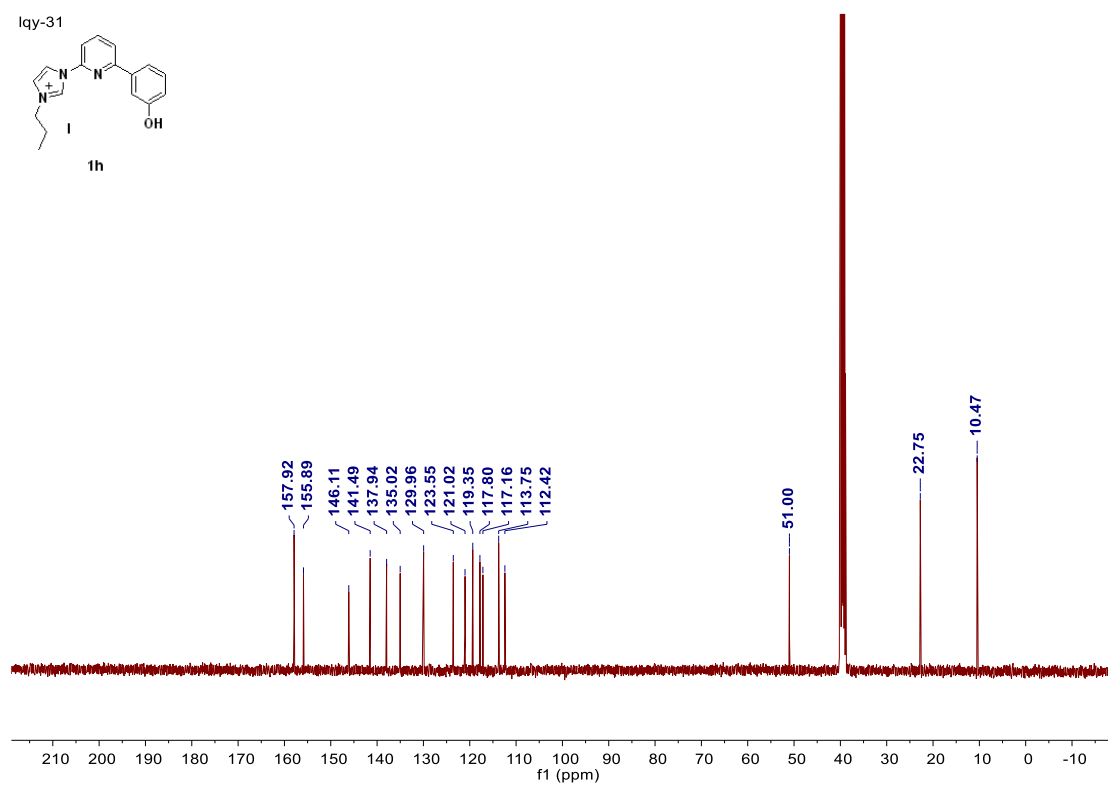


Figure S16. ¹³C NMR spectra of organocatalyst **1h**.

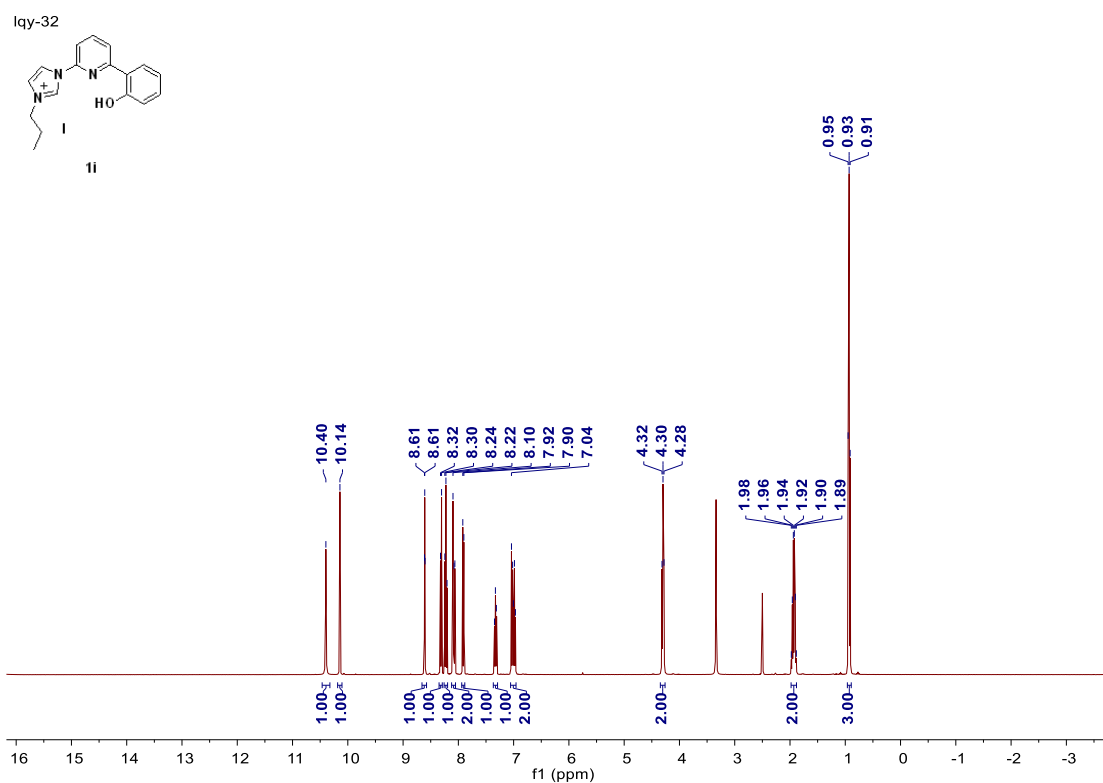


Figure S17. ¹H NMR spectra of organocatalyst **1i**.

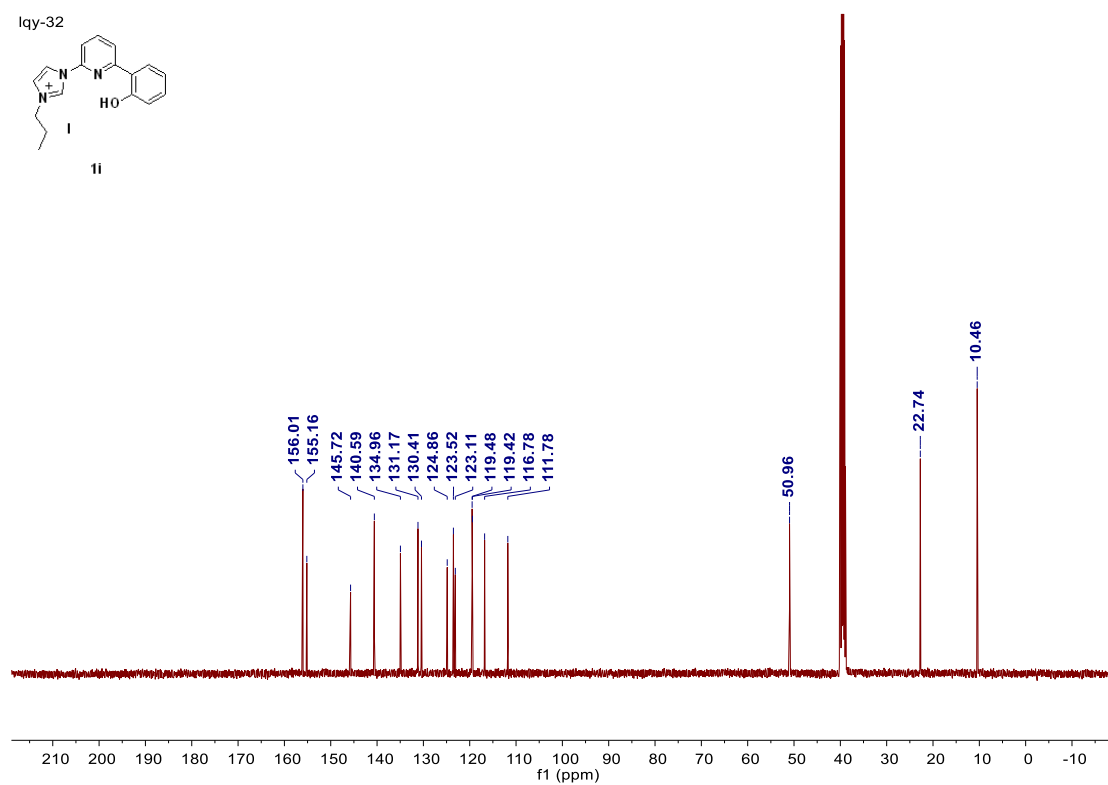


Figure S18. ¹³C NMR spectra of organocatalyst **1i**.

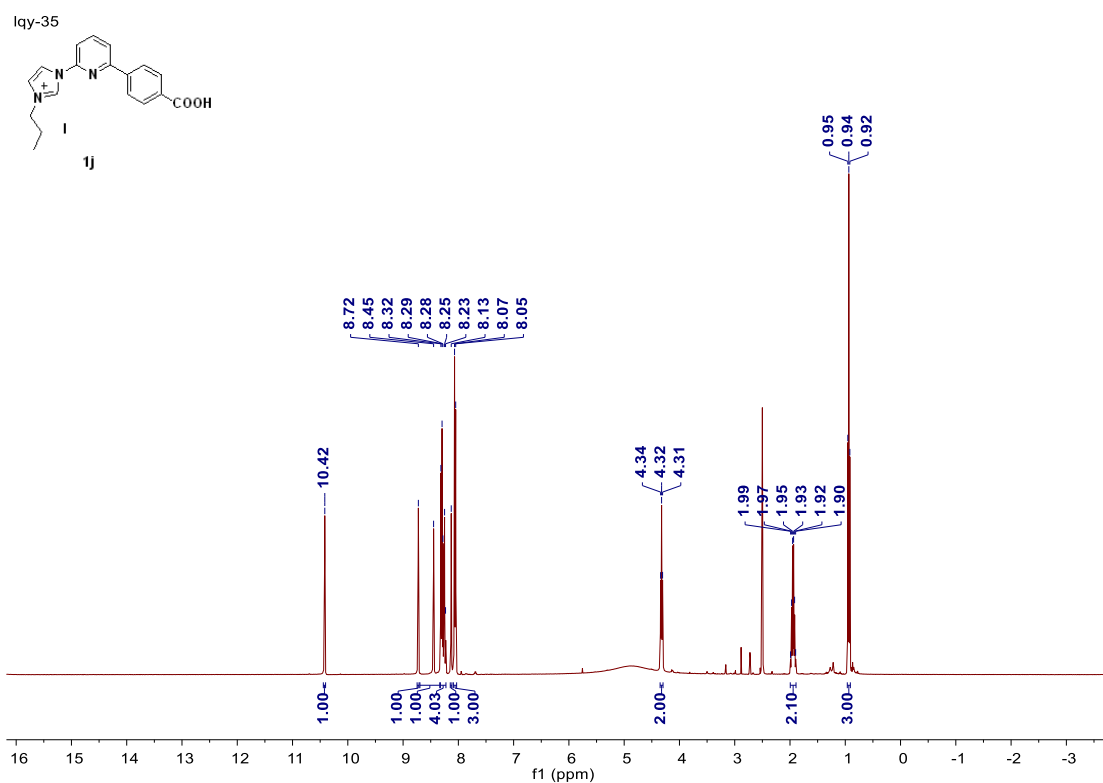


Figure S19. ¹H NMR spectra of organocatalyst **1j**.

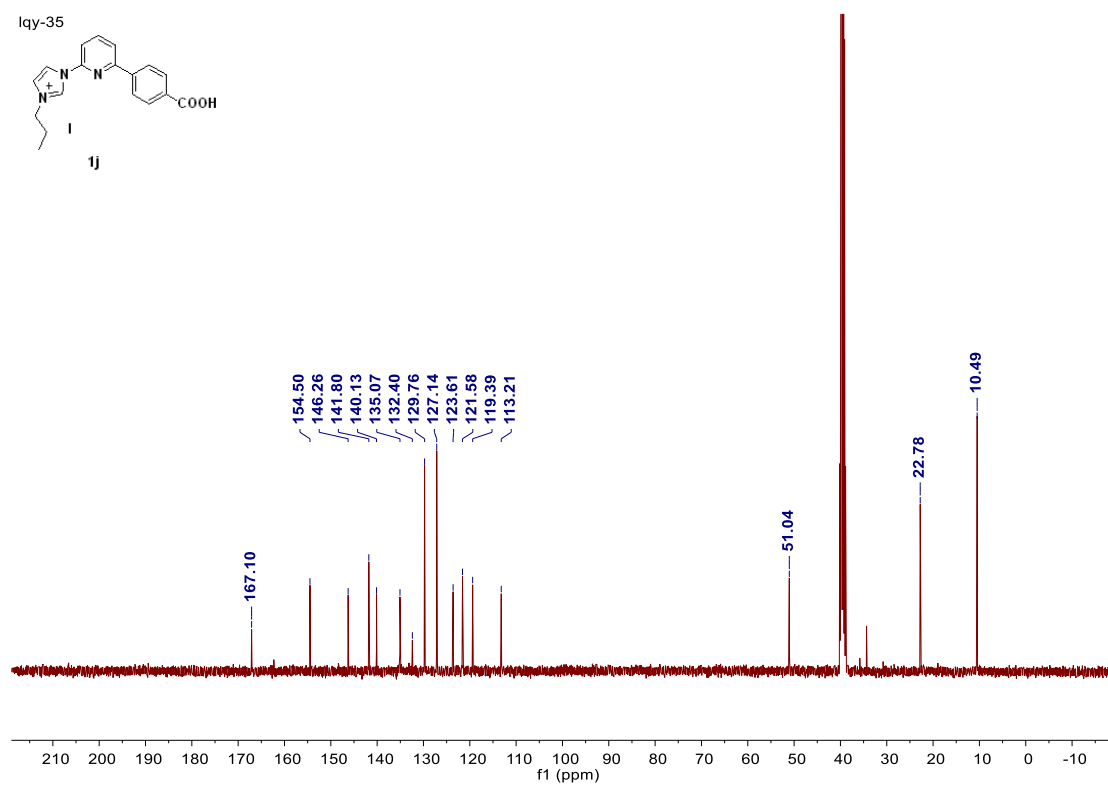


Figure S20. ¹³C NMR spectra of organocatalyst **1j**.

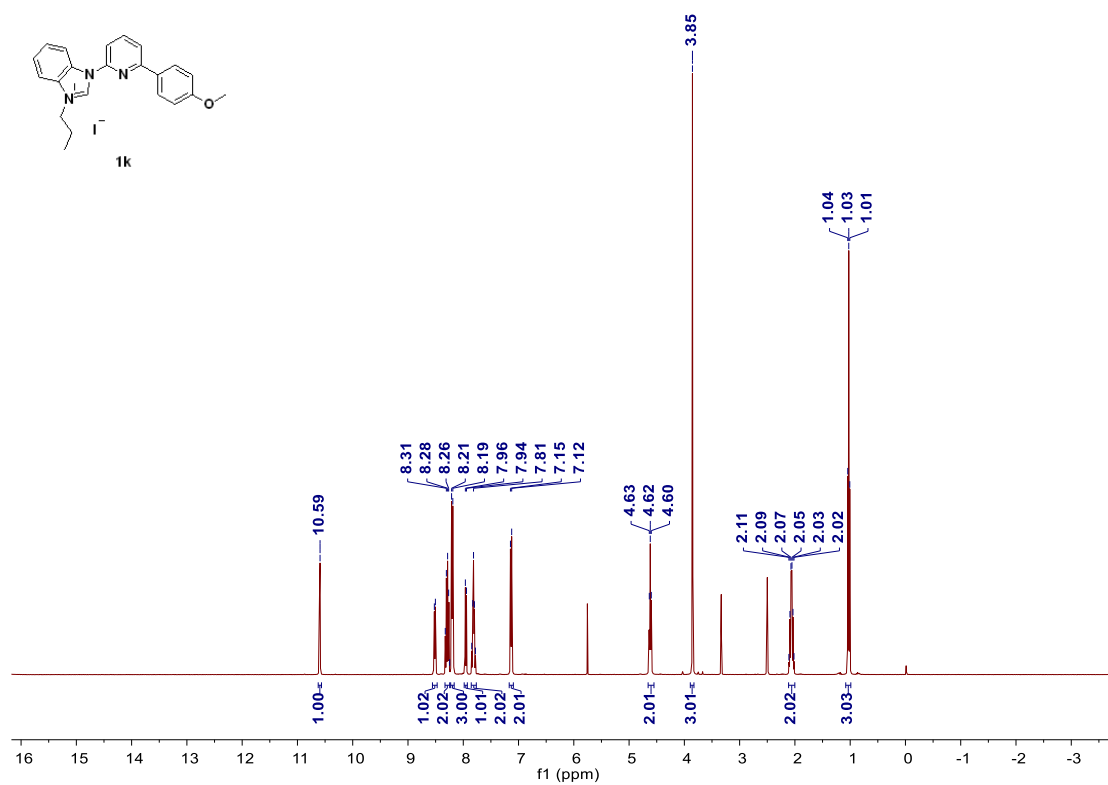


Figure S21. ^1H NMR spectra of organocatalyst **1k**.

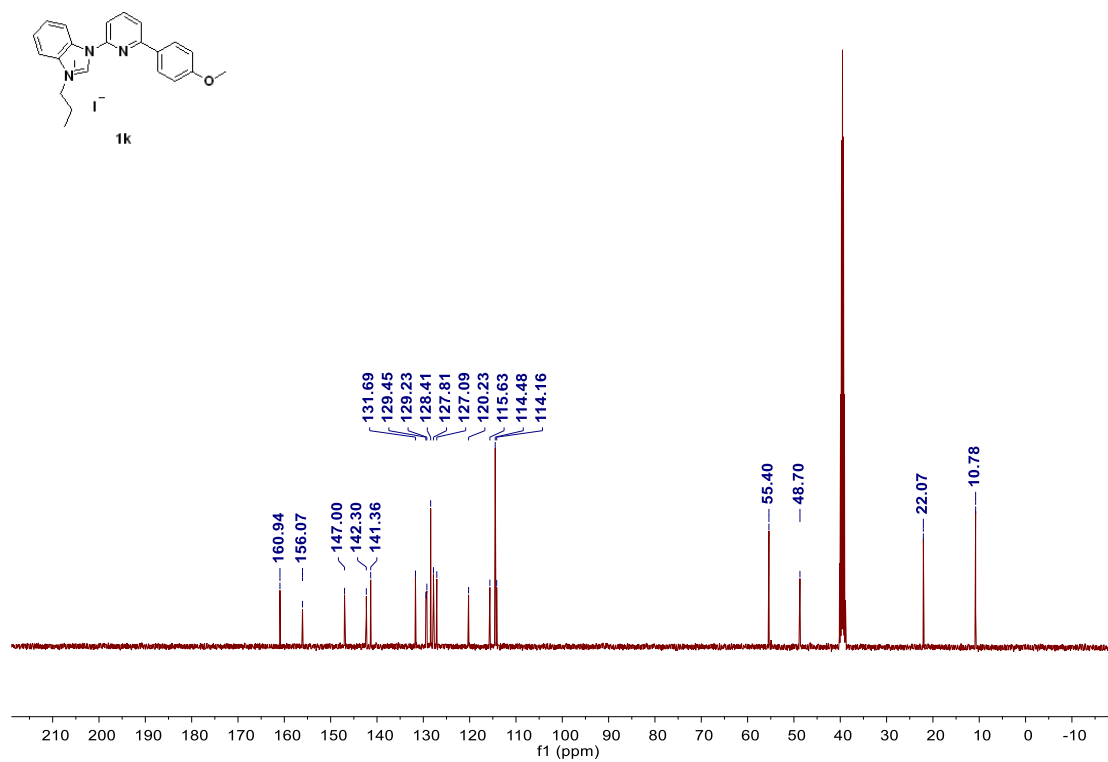


Figure S22. ^{13}C NMR spectra of organocatalyst **1k**.

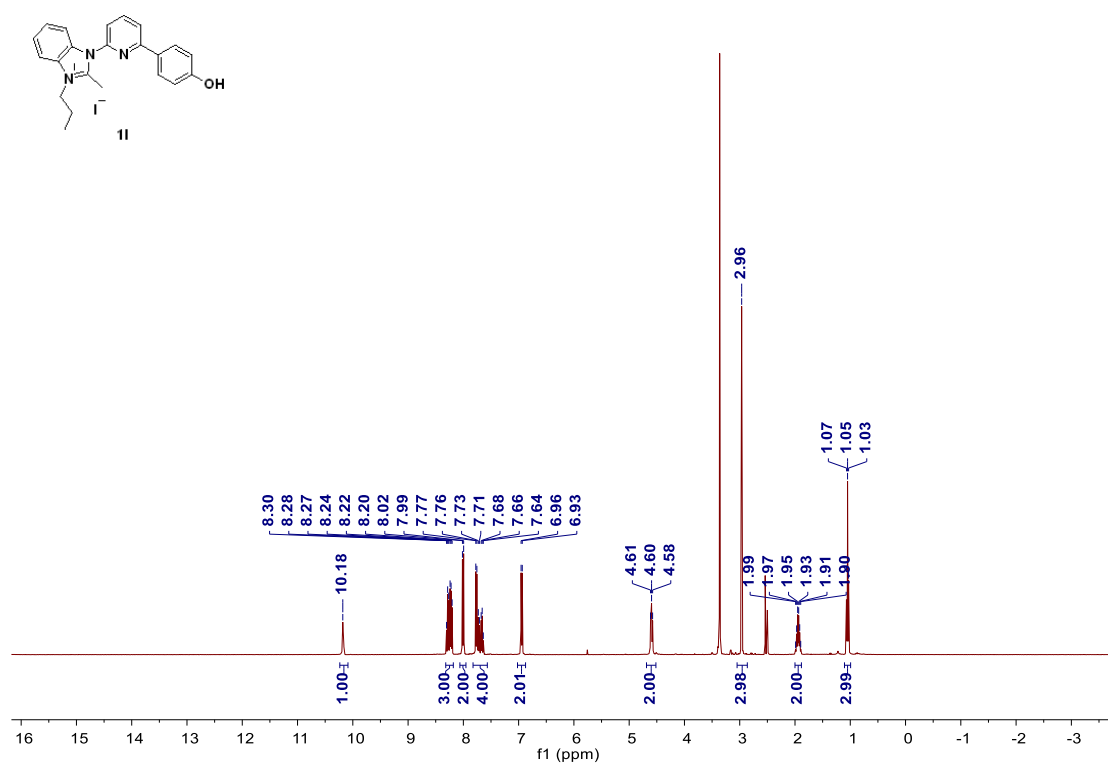


Figure S23. ¹H NMR spectra of organocatalyst **11**.

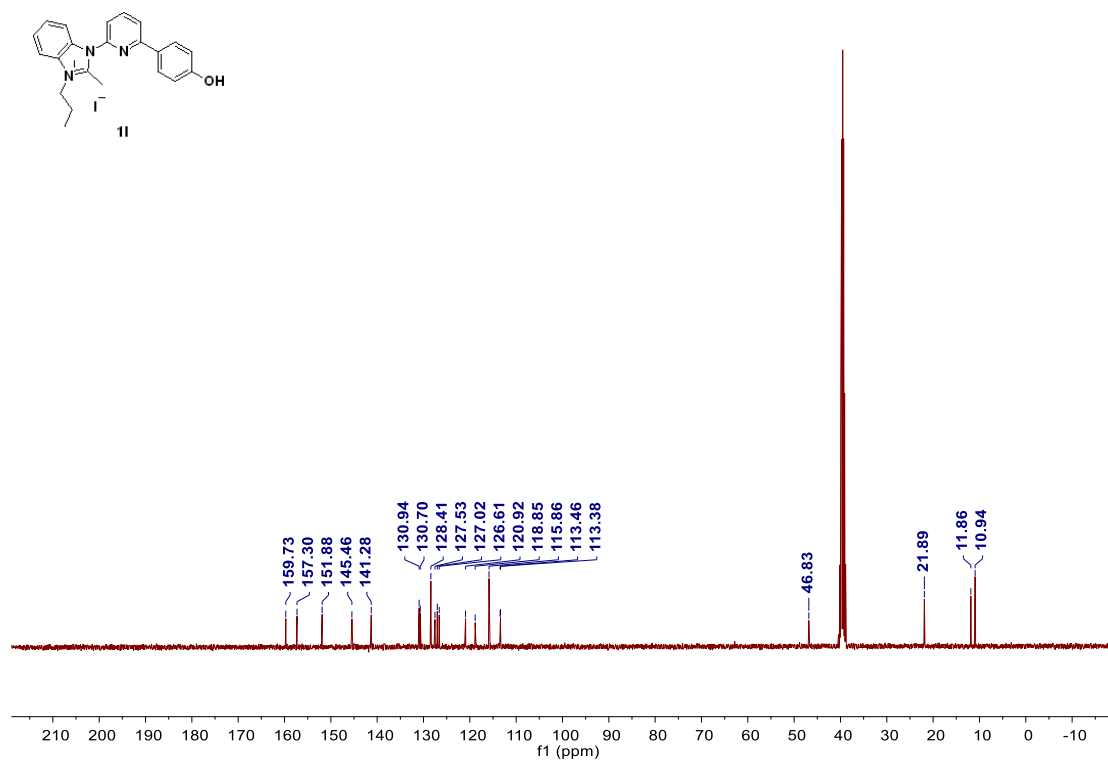


Figure S24. ¹³C NMR spectra of organocatalyst **11**.

3. NMR Spectra for the Cycloaddition Products

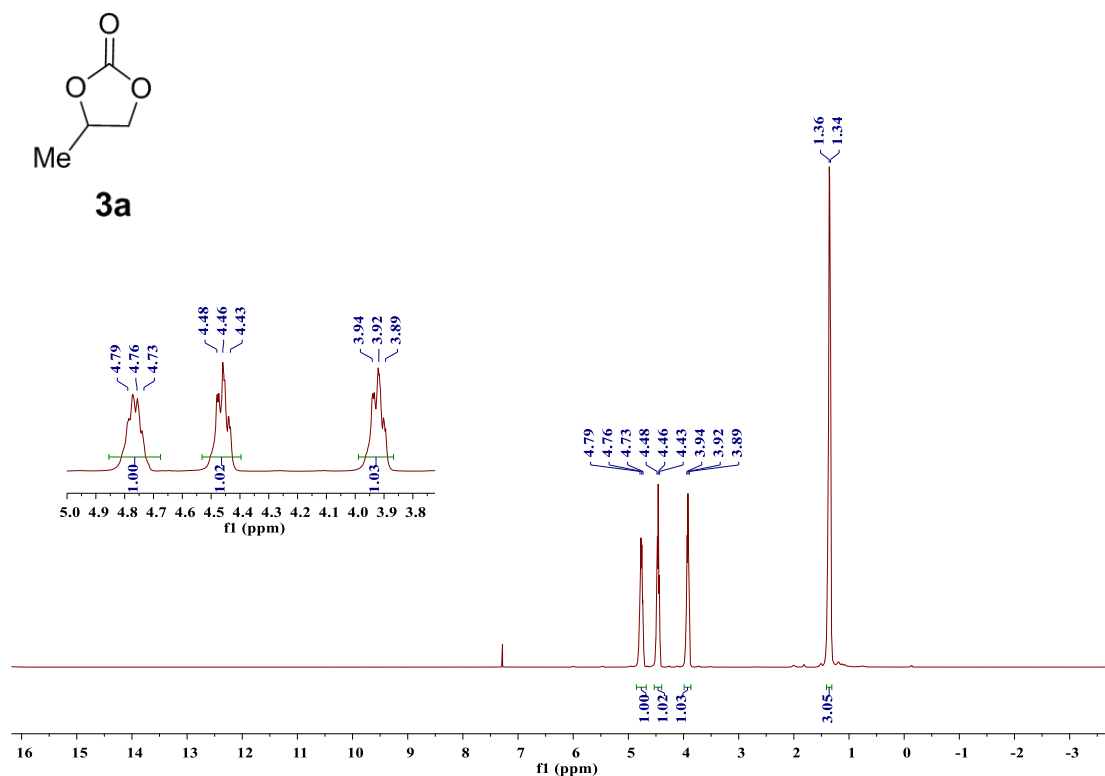


Figure S25. ¹H NMR spectra of cyclic carbonate **3a**.

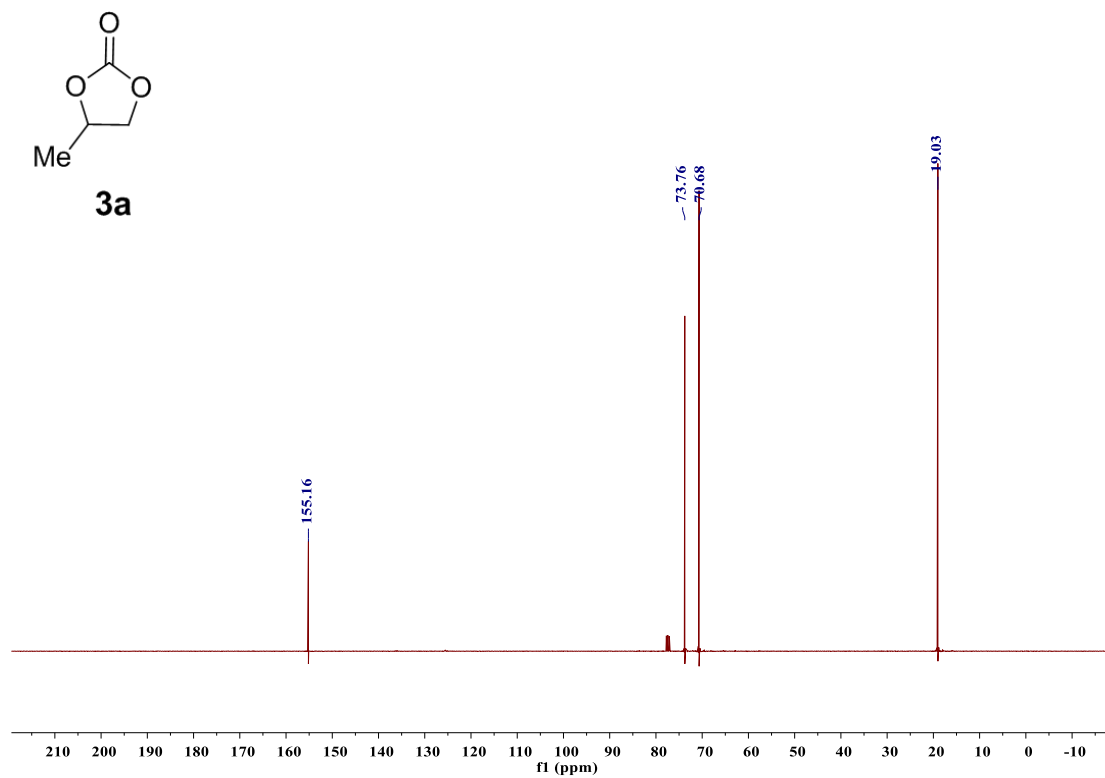


Figure S26. ¹³C NMR spectra of cyclic carbonate **3a**.

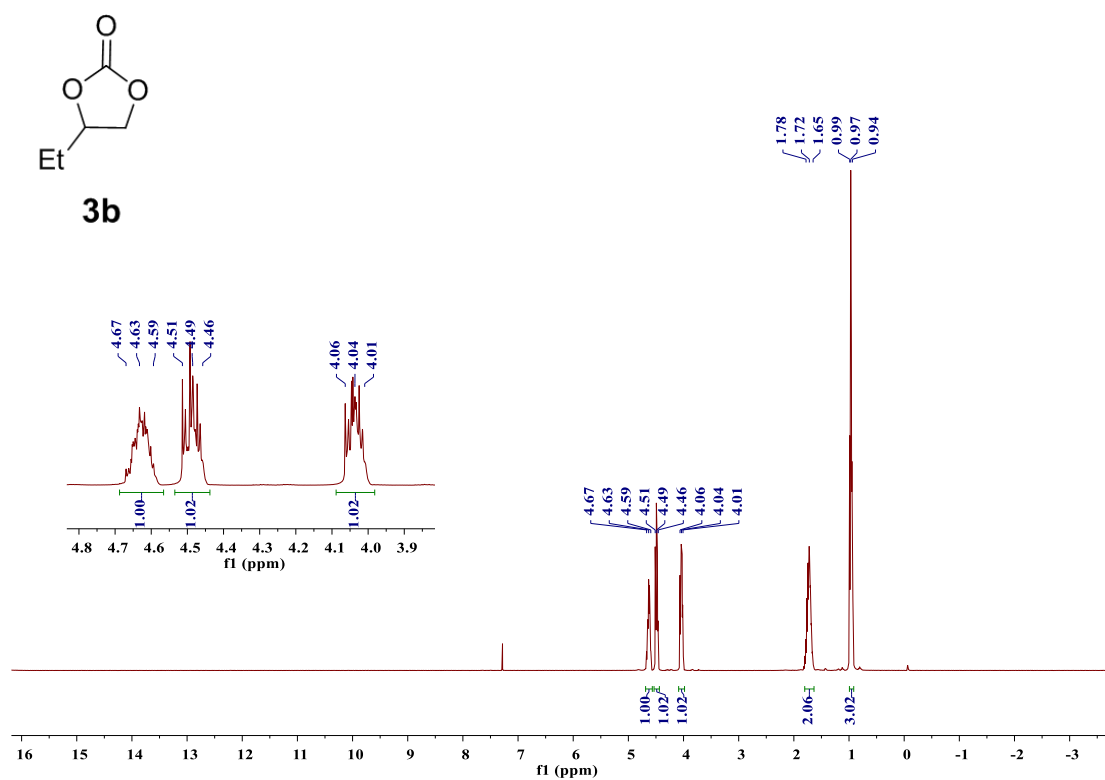


Figure S27. ^1H NMR spectra of cyclic carbonate **3b**.

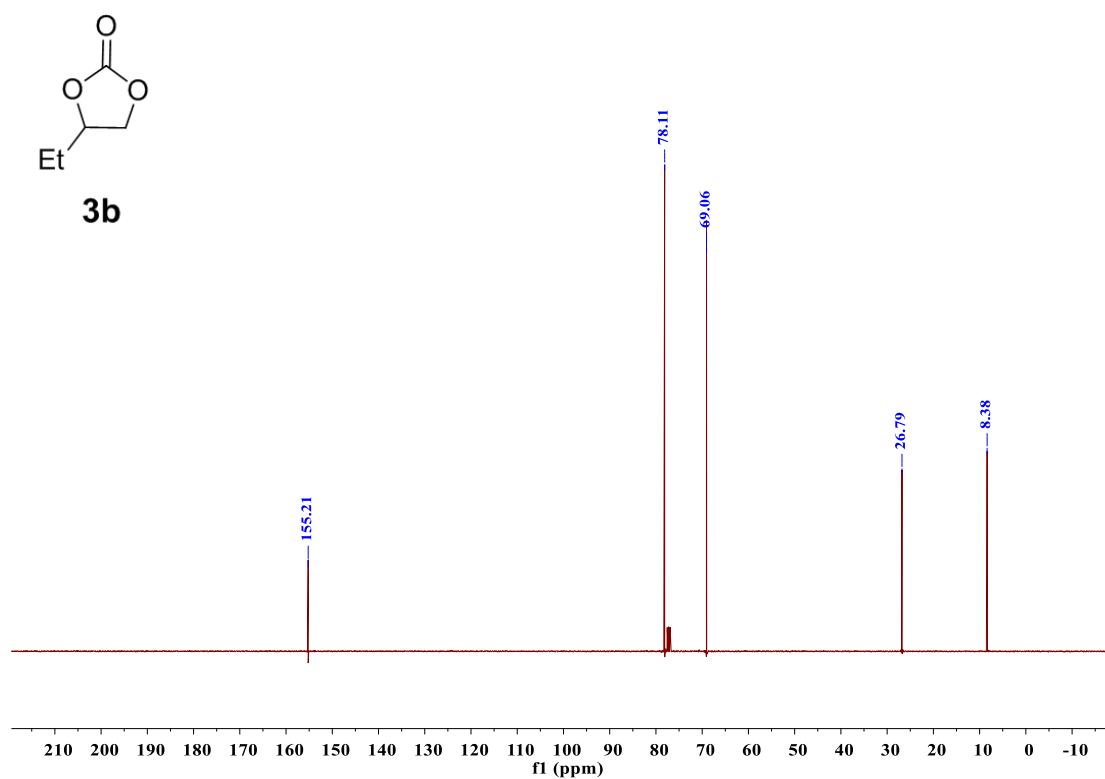


Figure S28. ^{13}C NMR spectra of cyclic carbonate **3b**.

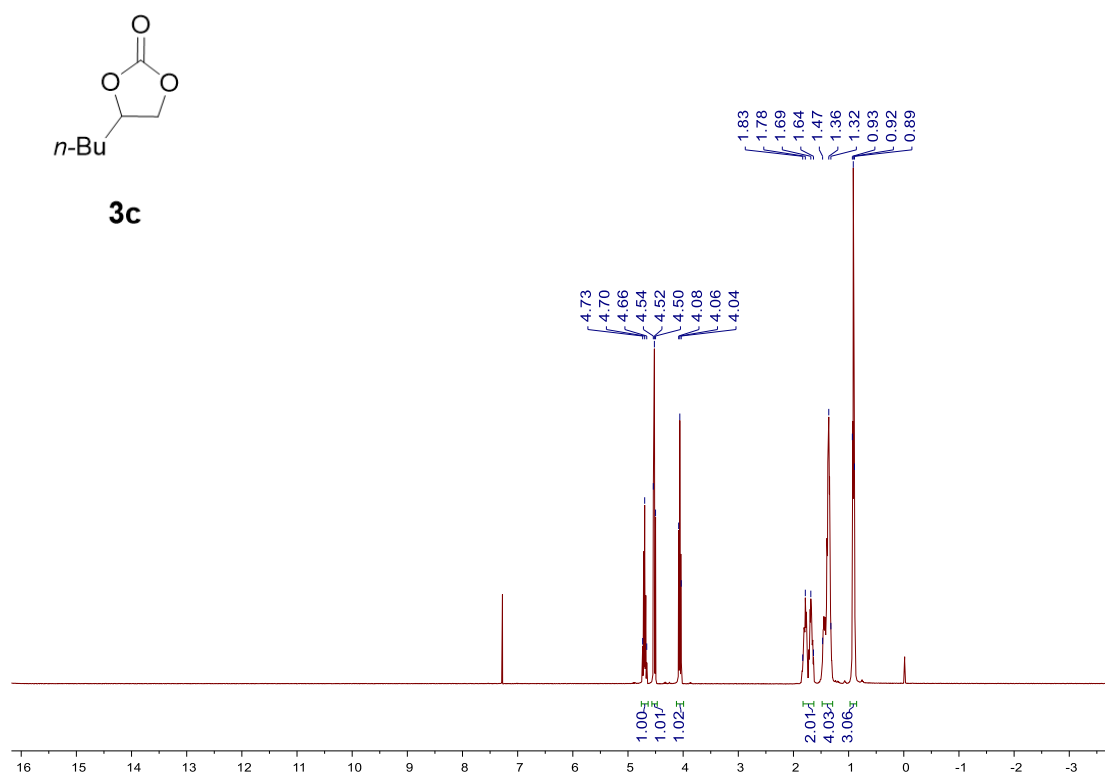


Figure S29. ¹H NMR spectra of cyclic carbonate **3c**.

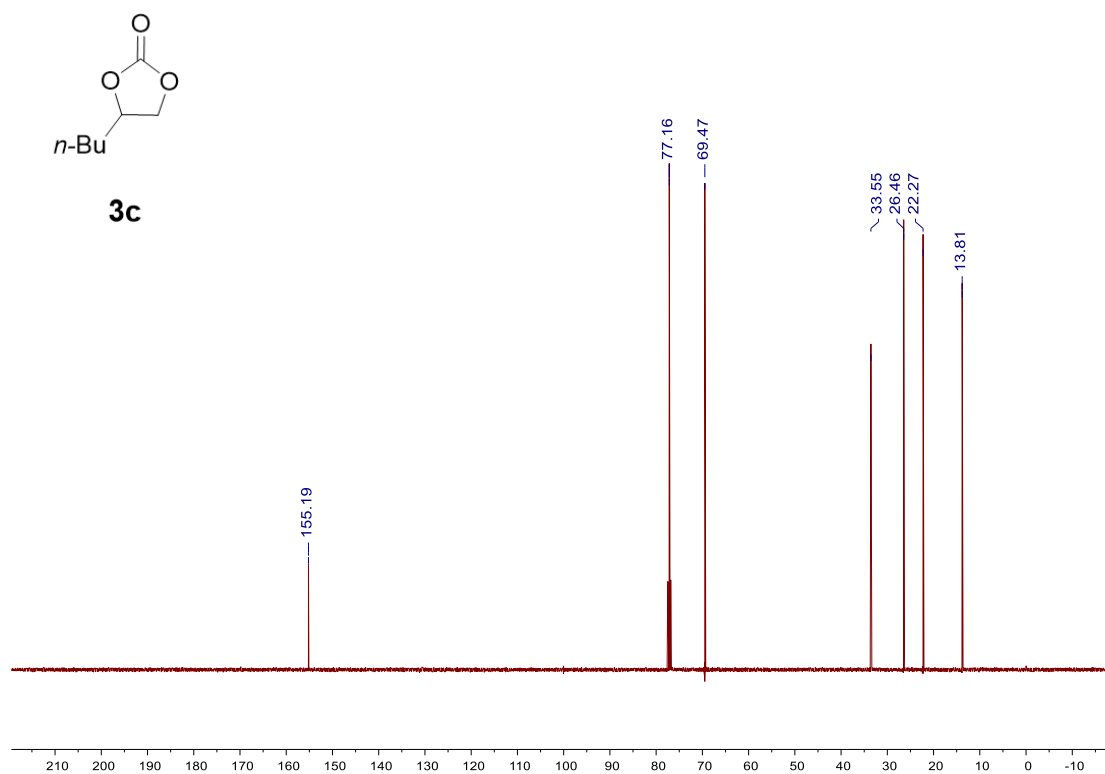


Figure S30. ¹³C NMR spectra of cyclic carbonate **3c**.

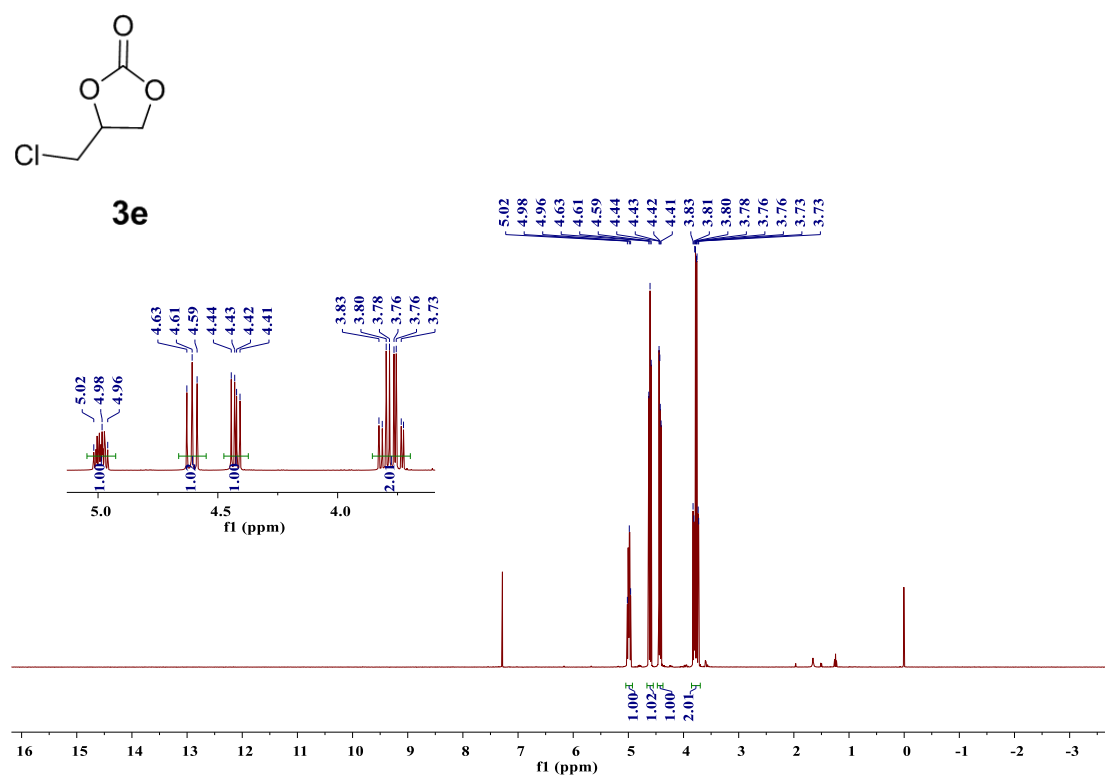


Figure S33. ¹H NMR spectra of cyclic carbonate **3e**.

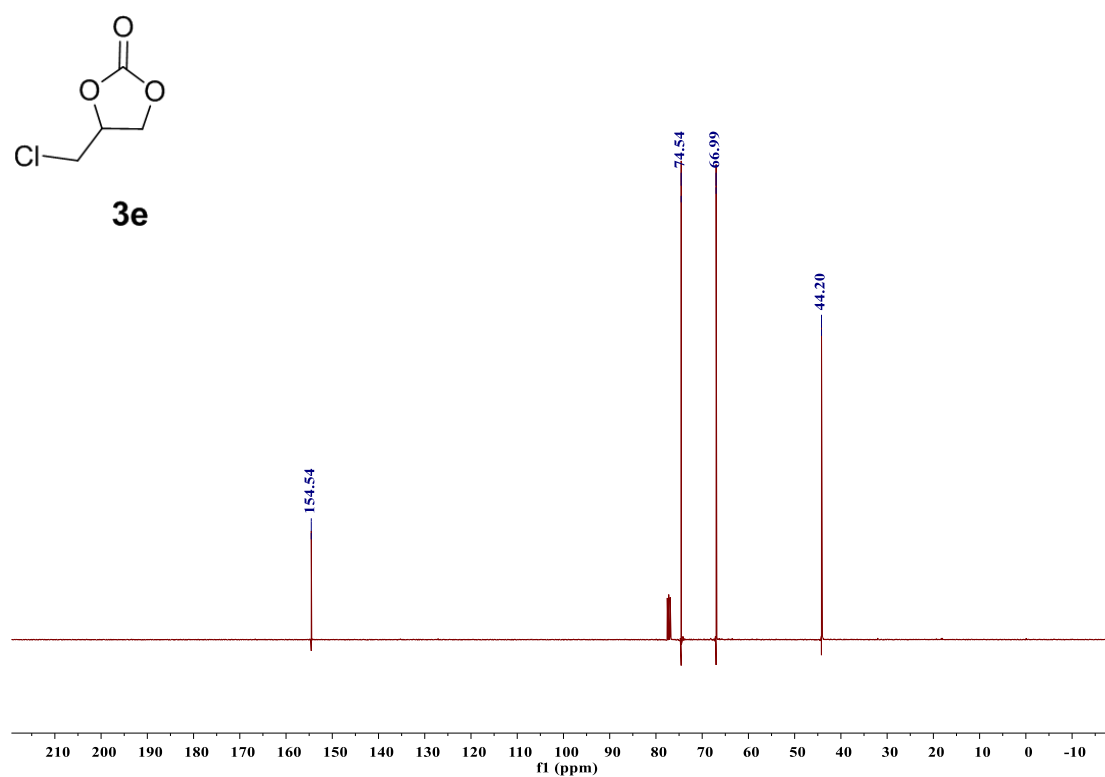


Figure S34. ¹³C NMR spectra of cyclic carbonate **3e**.

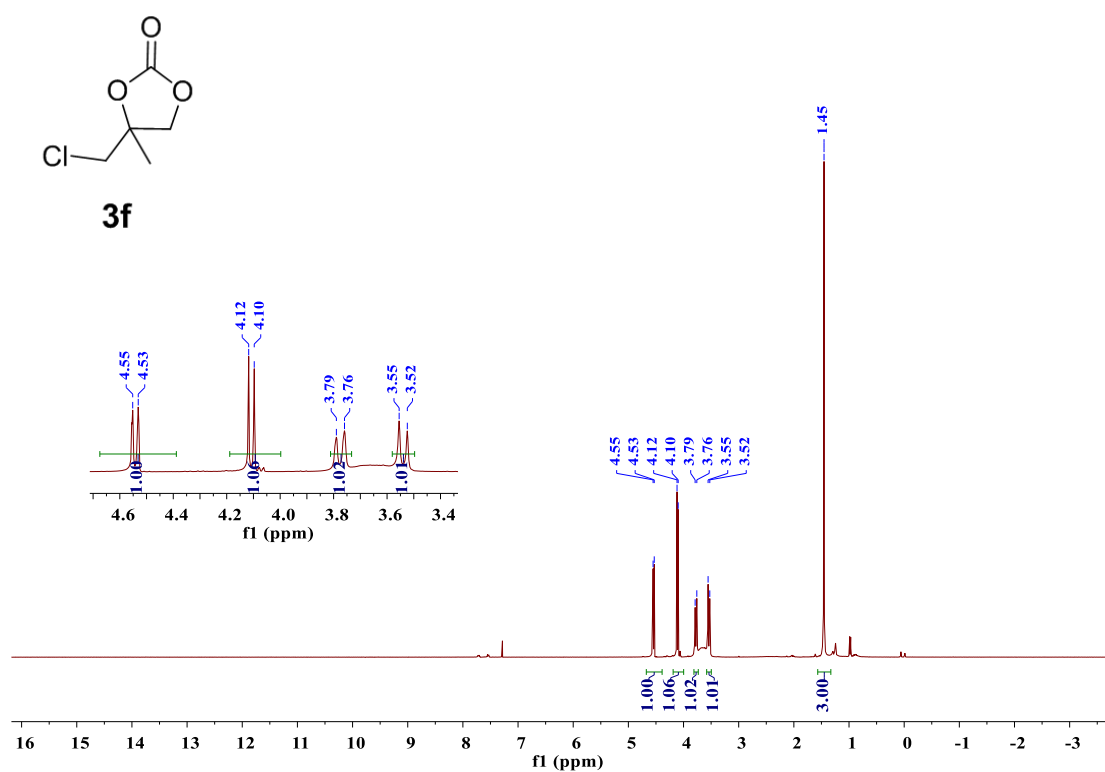


Figure S35. ¹H NMR spectra of cyclic carbonate **3f**.

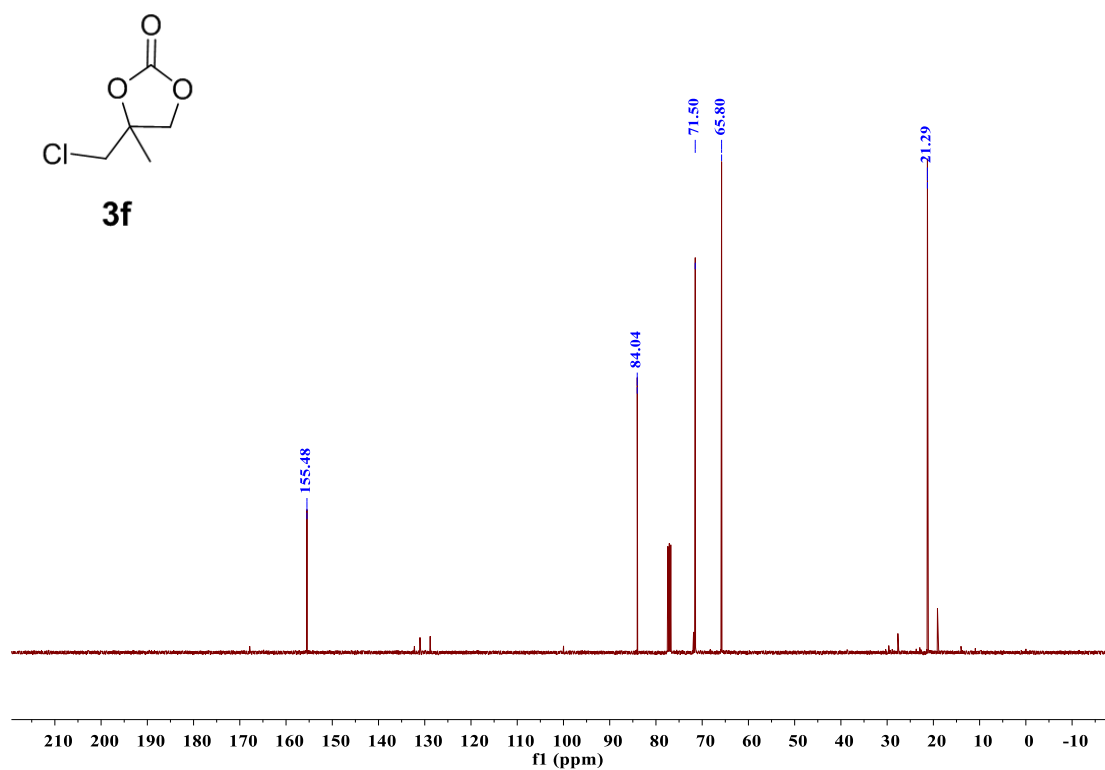


Figure S36. ¹³C NMR spectra of cyclic carbonate **3f**.

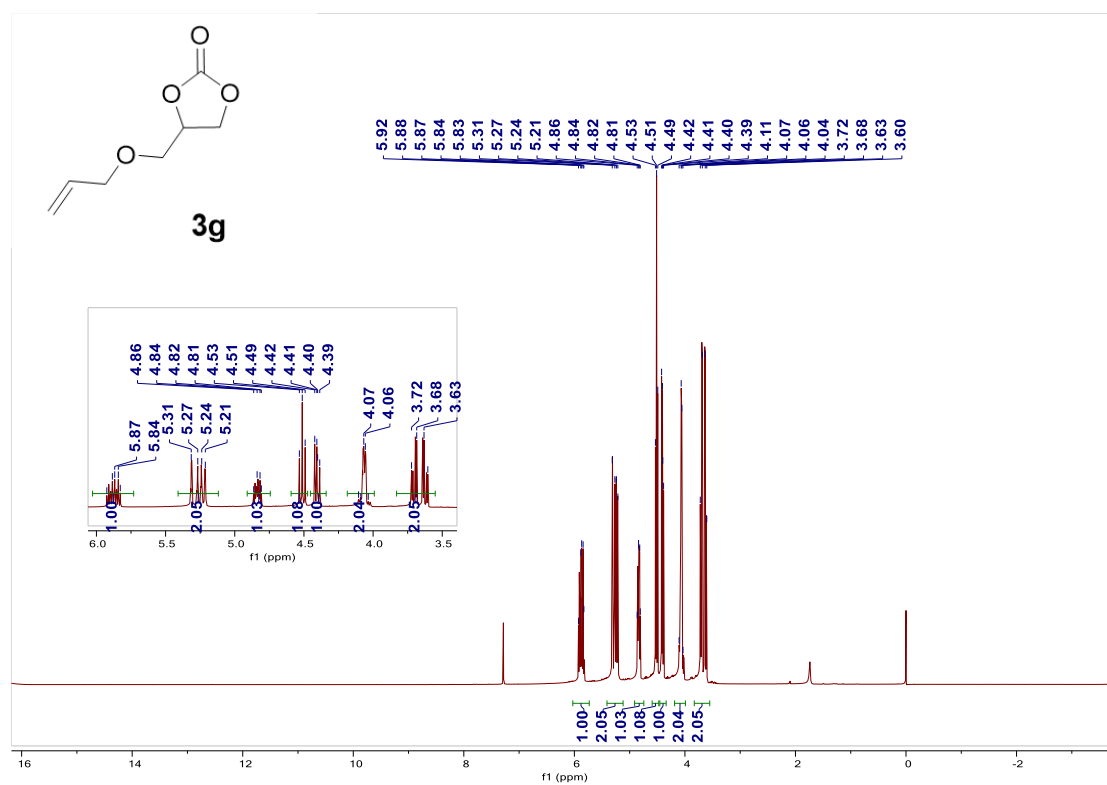


Figure S37. ¹H NMR spectra of cyclic carbonate **3g**.

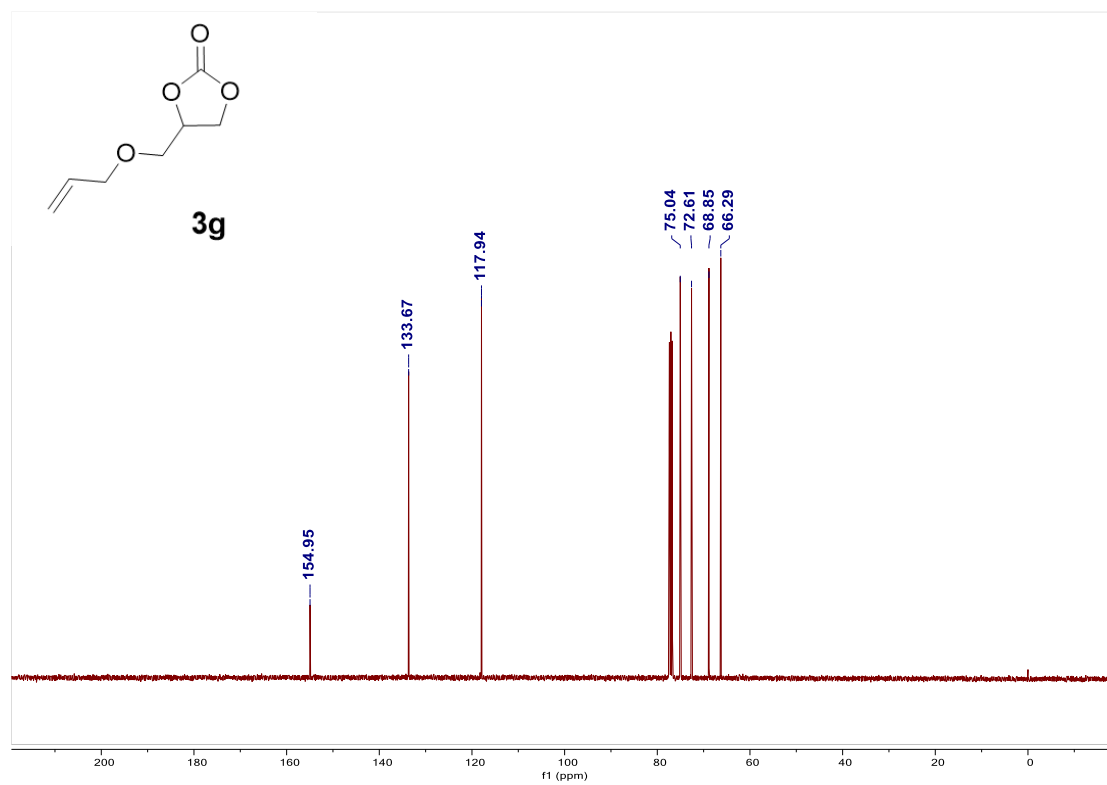


Figure S38. ¹³C NMR spectra of cyclic carbonate **3g**.

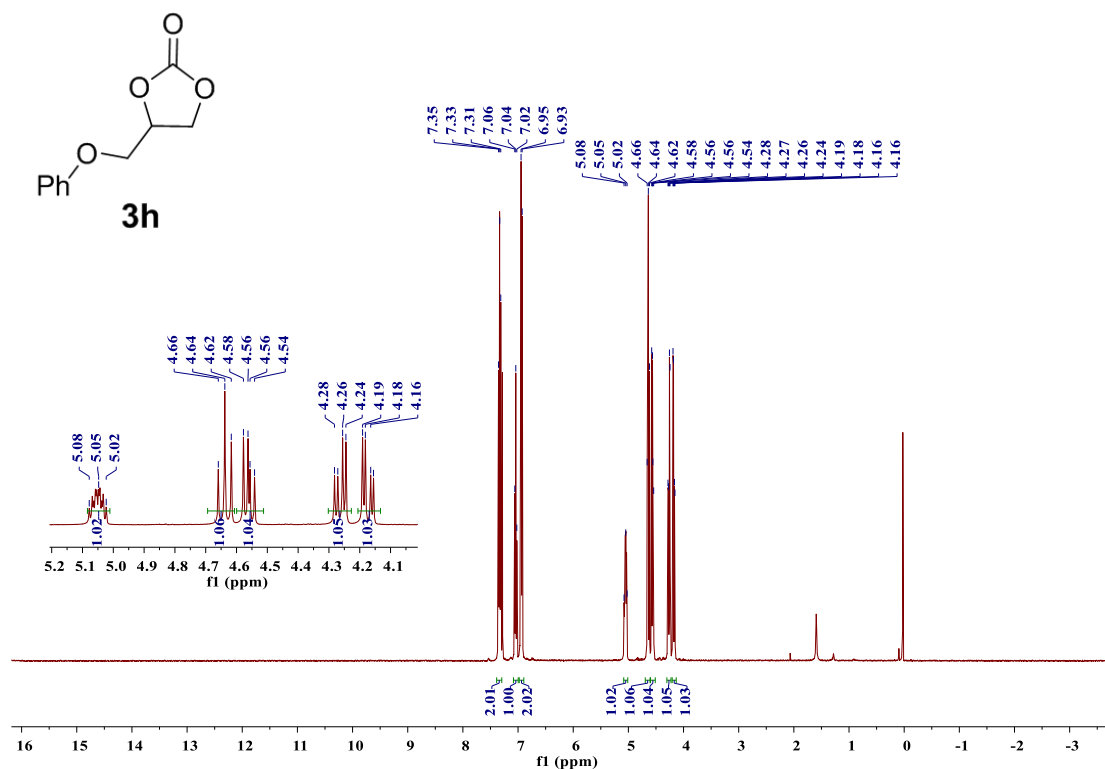


Figure S39. ^1H NMR spectra of cyclic carbonate **3h**.

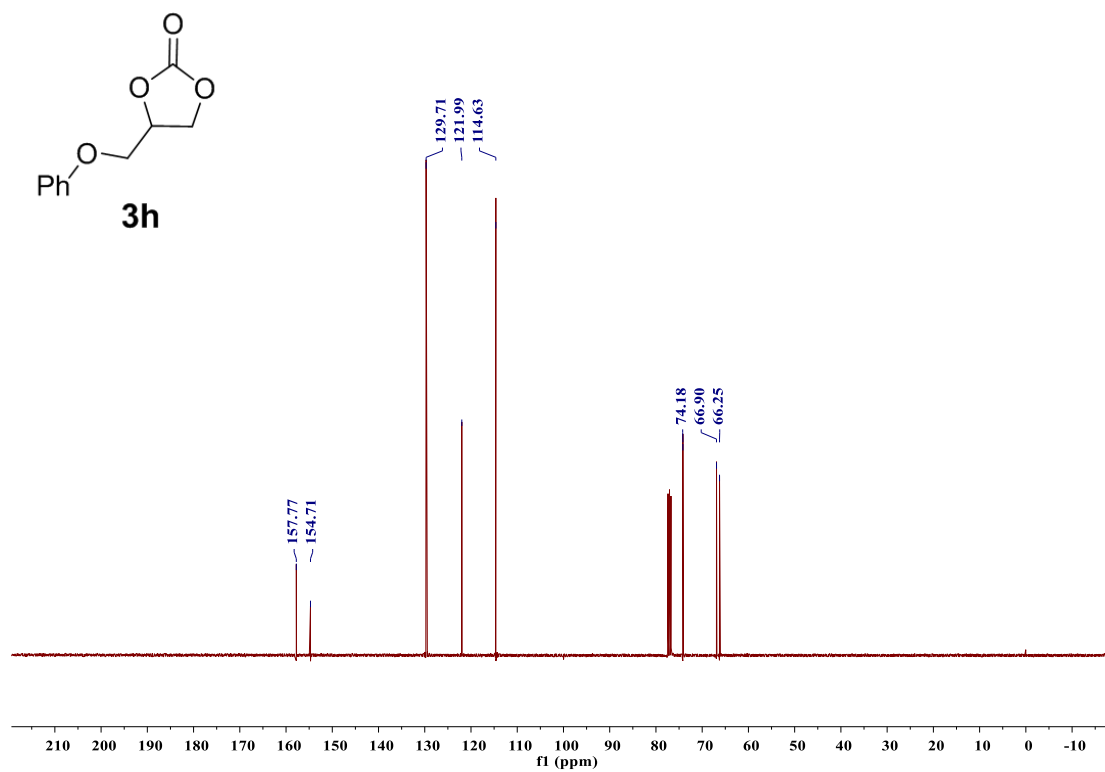


Figure S40. ^{13}C NMR spectra of cyclic carbonate **3h**.

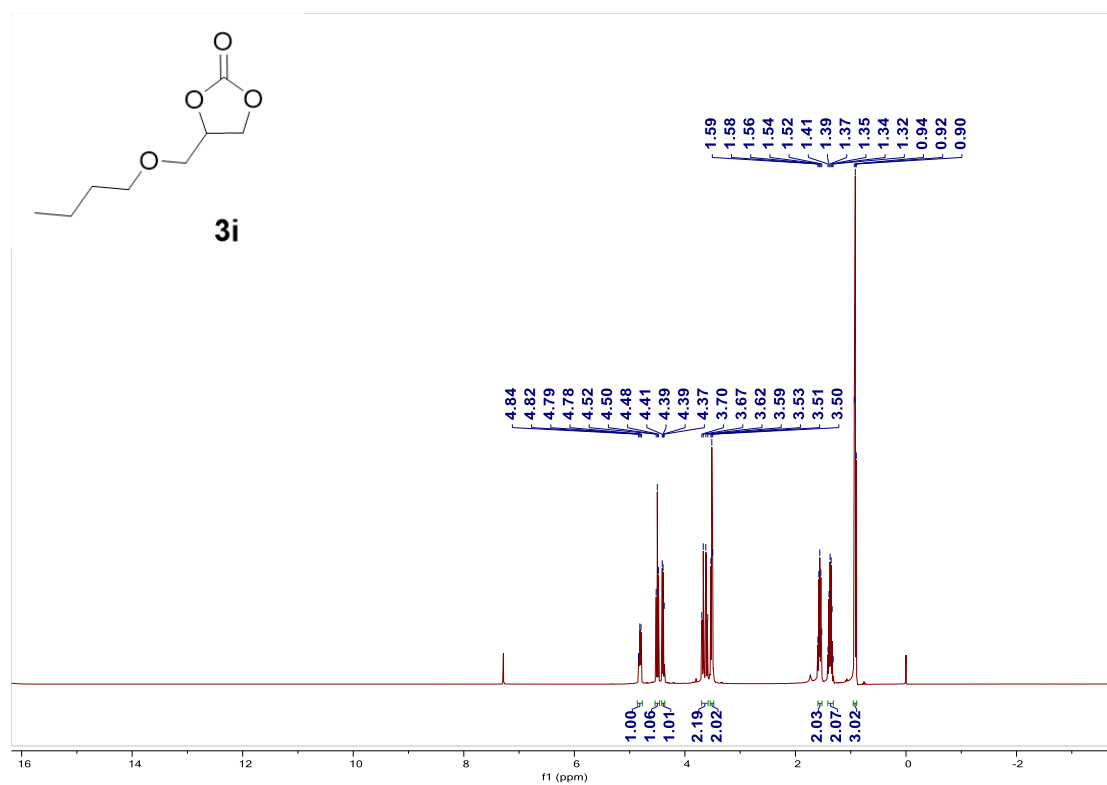


Figure S41. ¹H NMR spectra of cyclic carbonate **3i**.

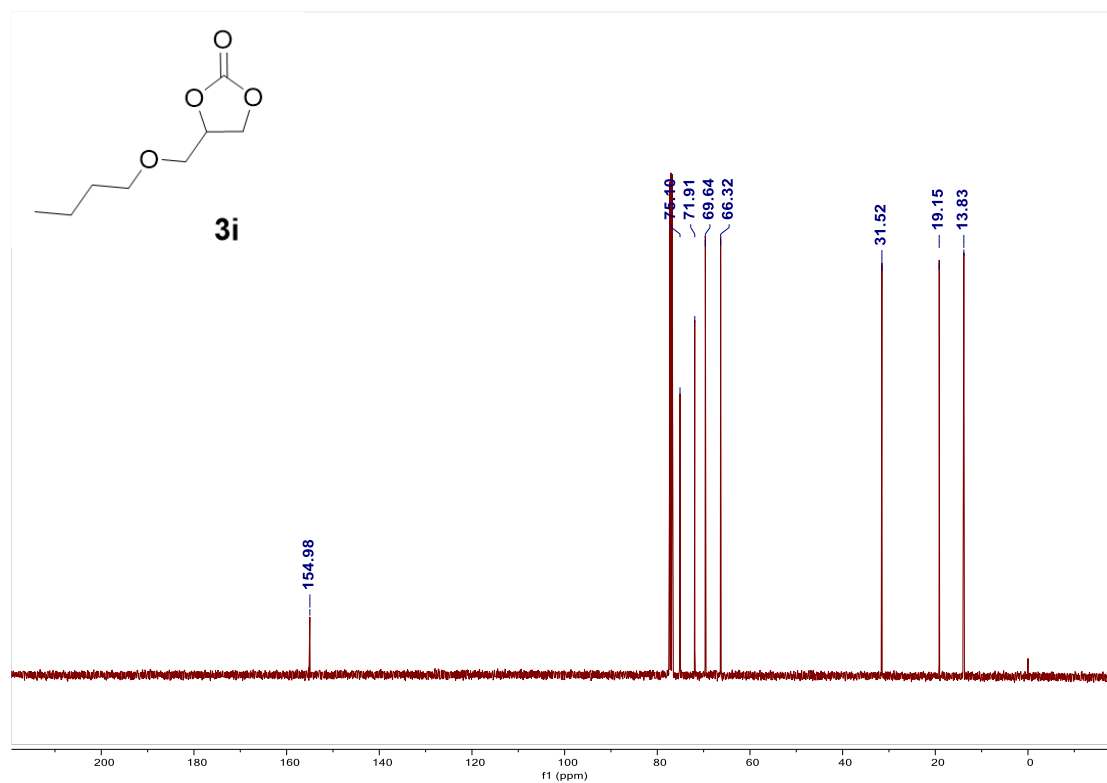


Figure S42. ¹³C NMR spectra of cyclic carbonate **3i**.

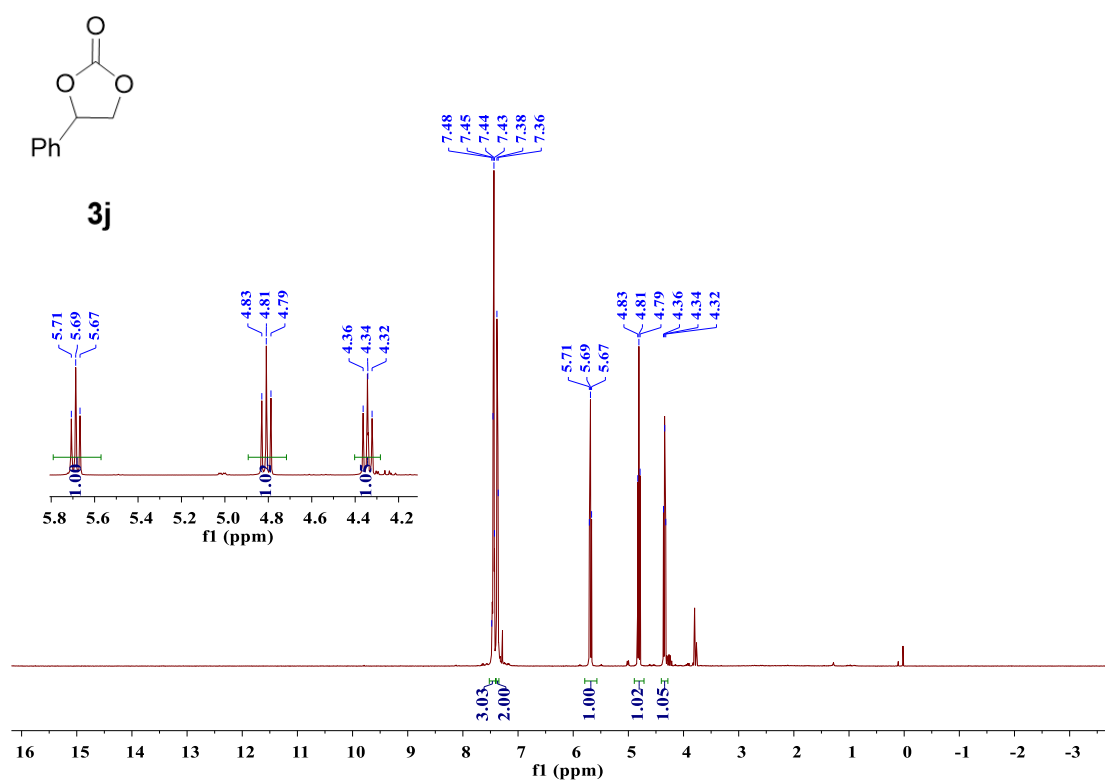


Figure S43. ¹H NMR spectra of cyclic carbonate **3j**.

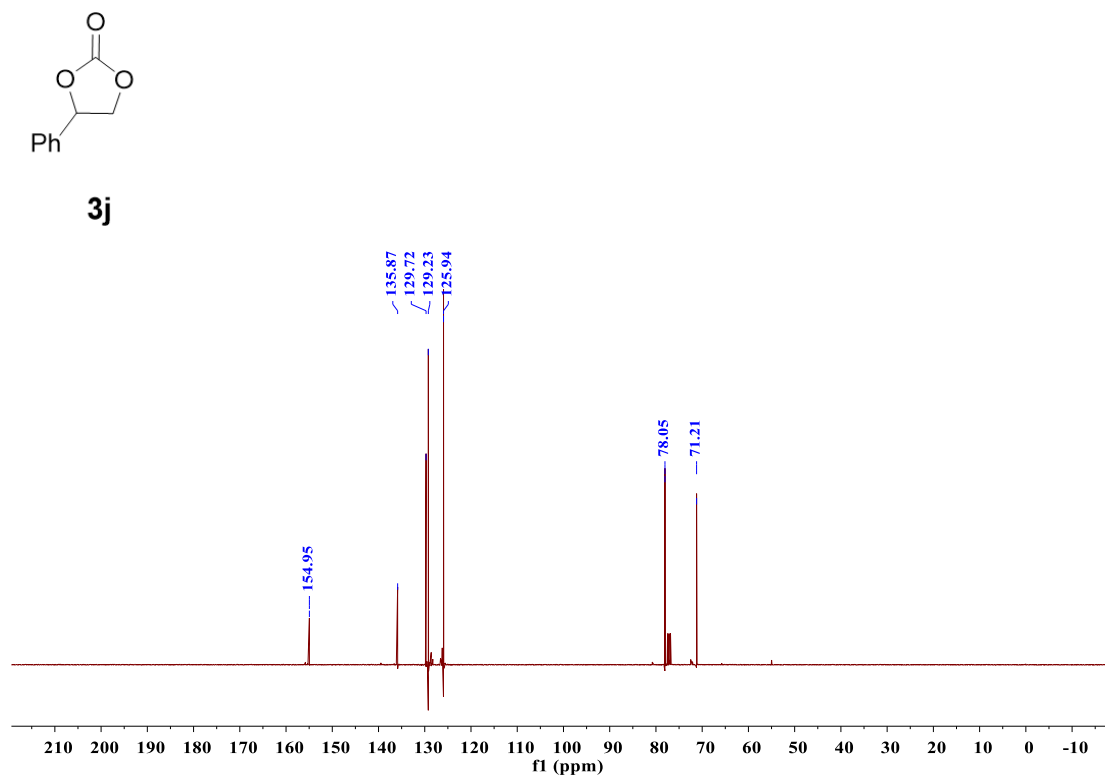


Figure S44. ¹³C NMR spectra of cyclic carbonate **3j**.

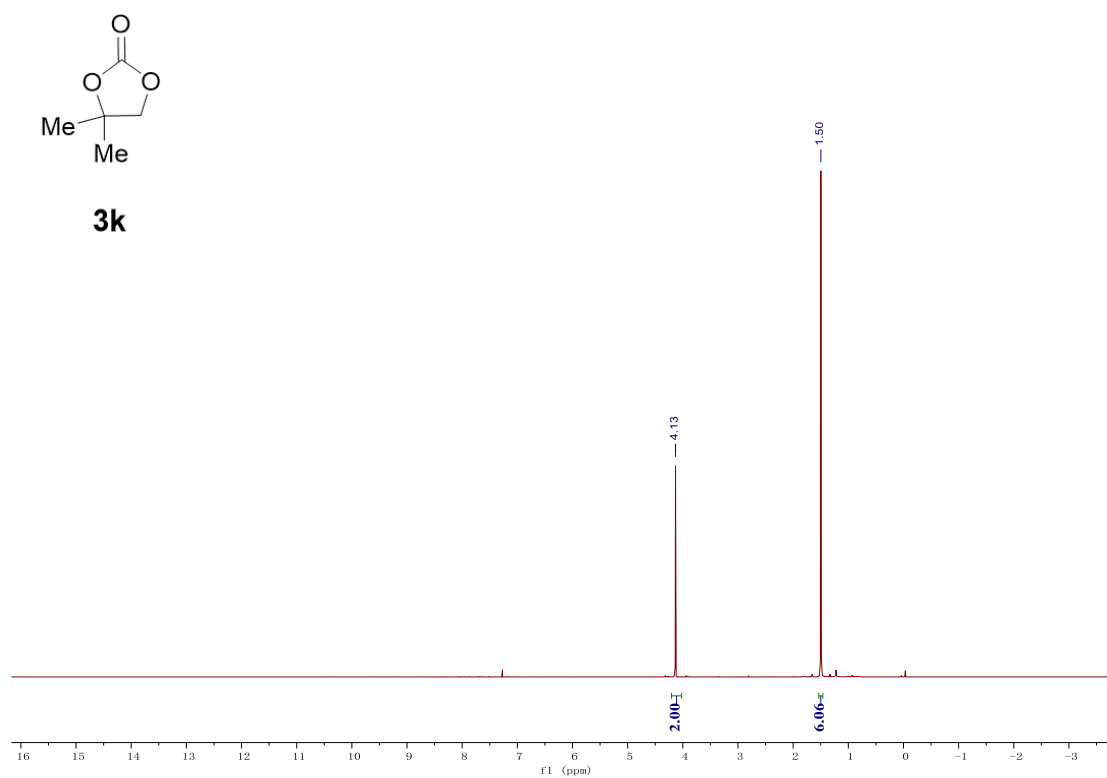


Figure S45. ^1H NMR spectra of cyclic carbonate **3k**.

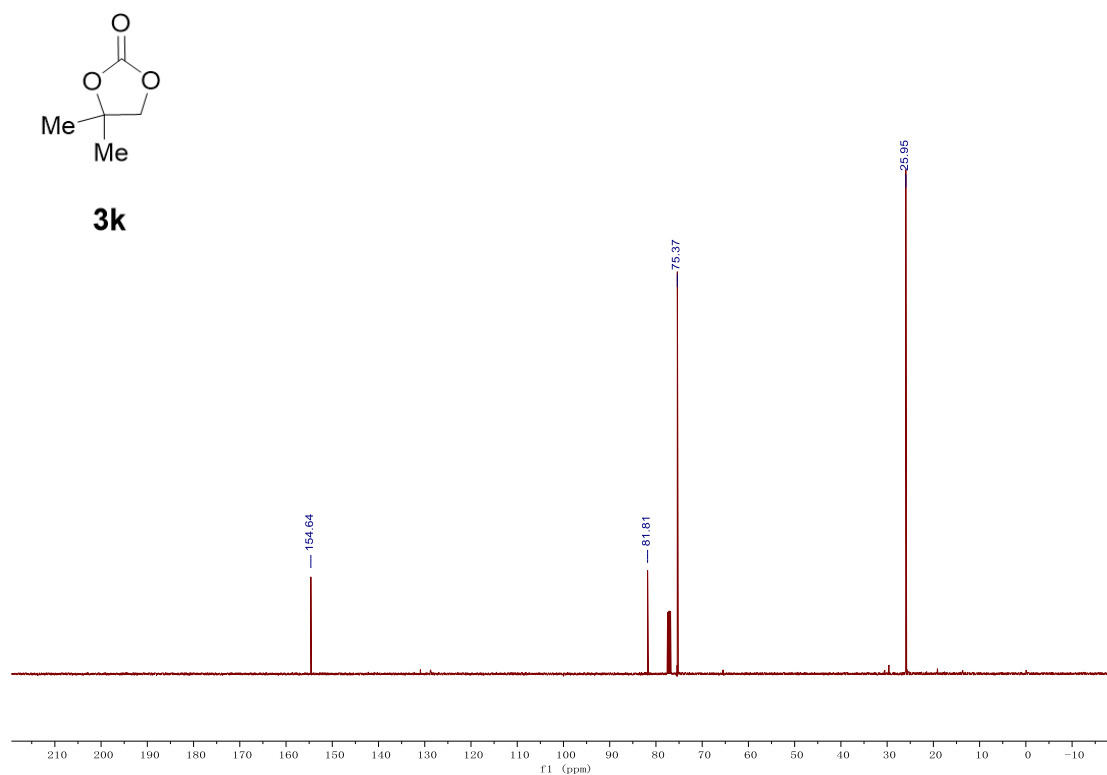


Figure S46. ^{13}C NMR spectra of cyclic carbonate **3k**.

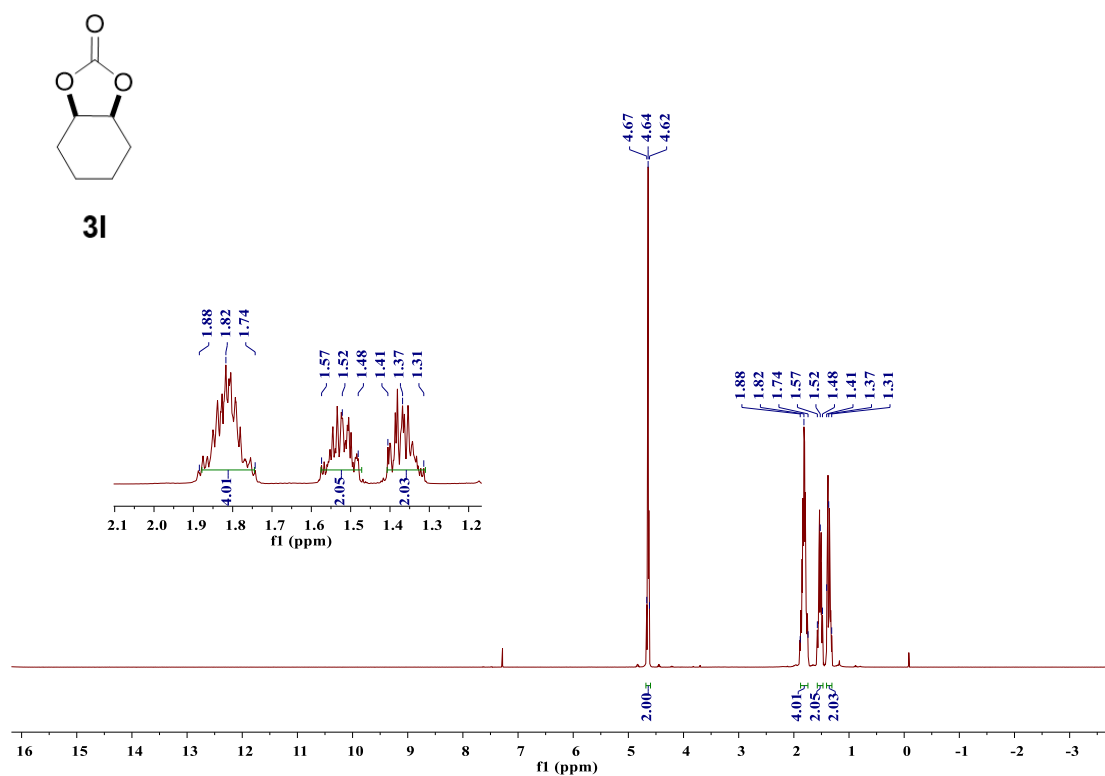


Figure S47. ¹H NMR spectra of cyclic carbonate **3l**.

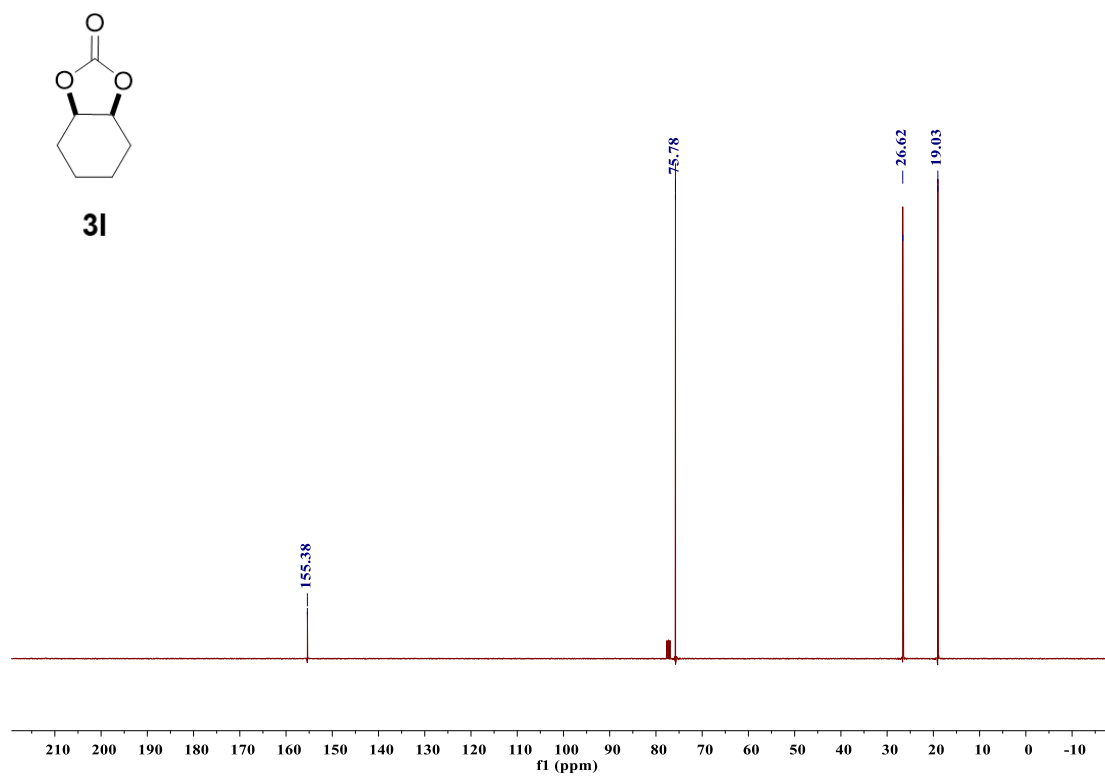


Figure S48. ¹³C NMR spectra of cyclic carbonate **3l**.

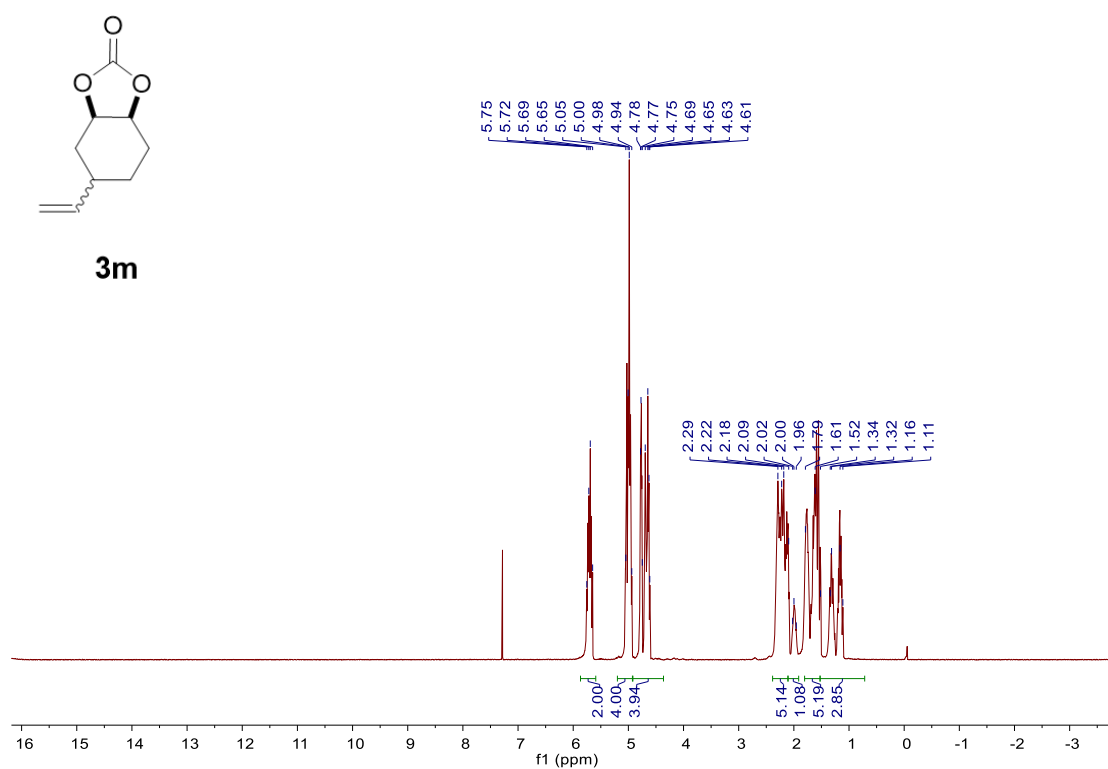


Figure S49. ¹H NMR spectra of cyclic carbonate **3m**.

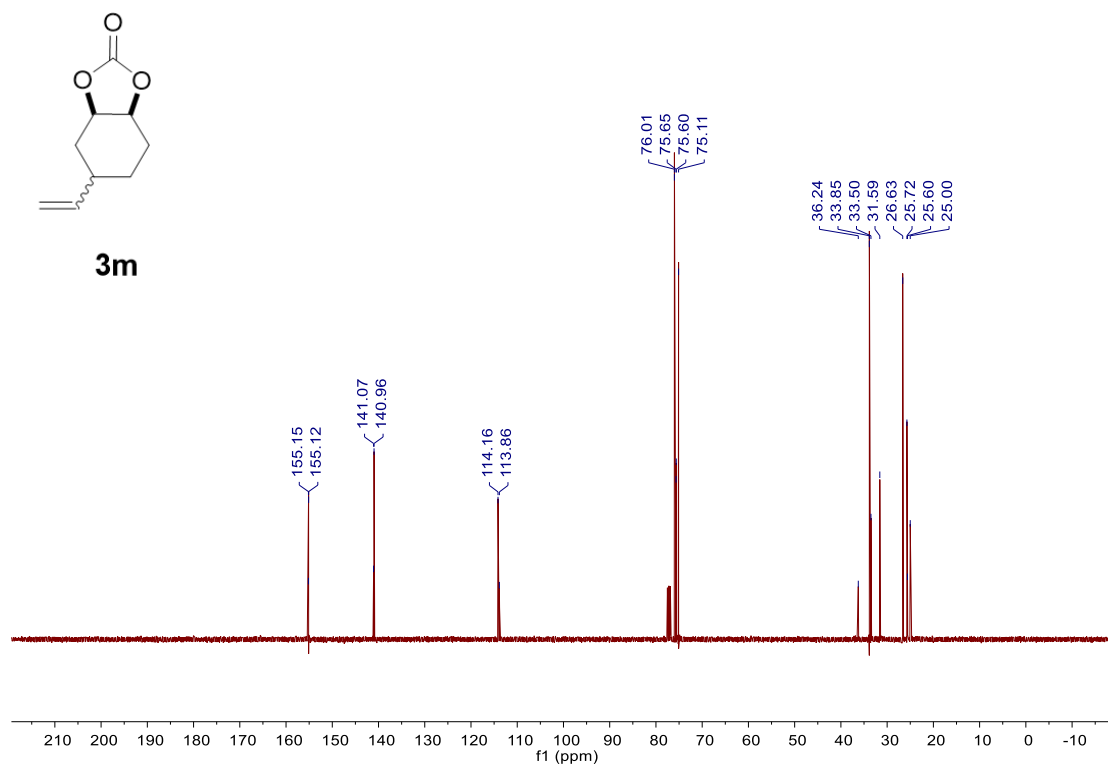


Figure S50. ¹³C NMR spectra of cyclic carbonate **3m**.

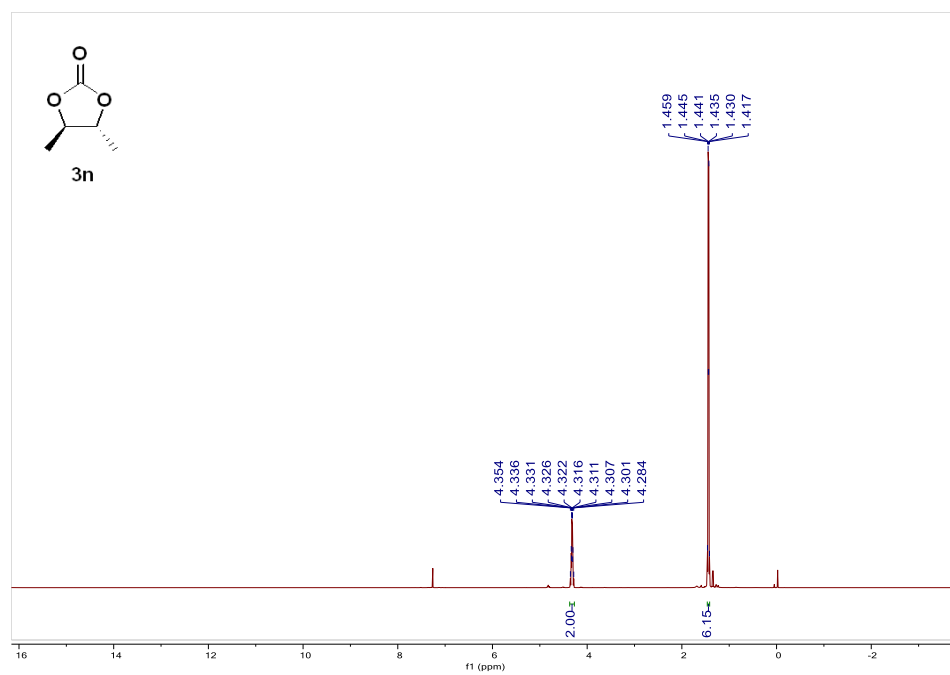


Figure S51. ^1H NMR spectra of cyclic carbonate **3n**.

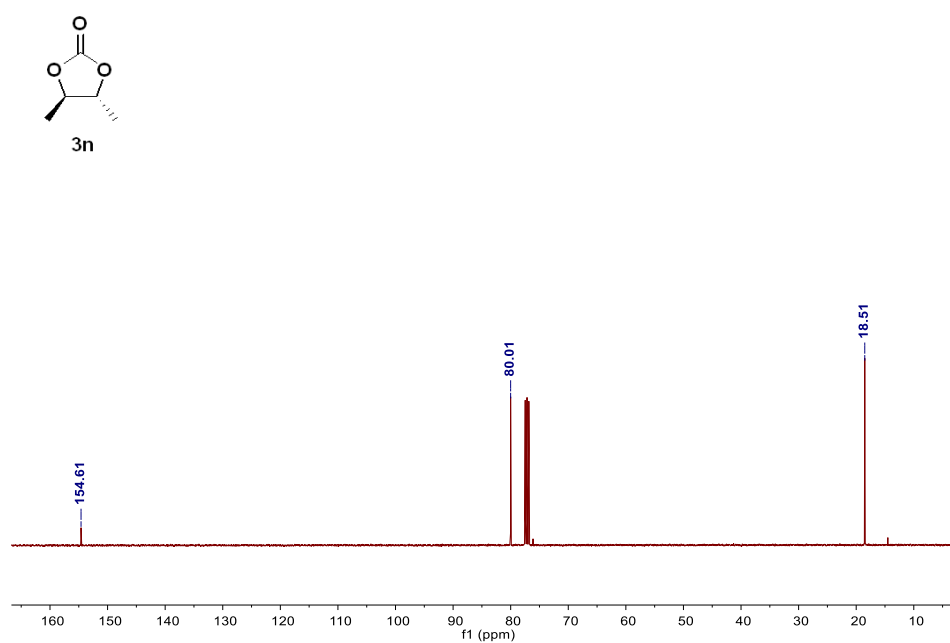


Figure S52. ^{13}C NMR spectra of cyclic carbonate **3n**.

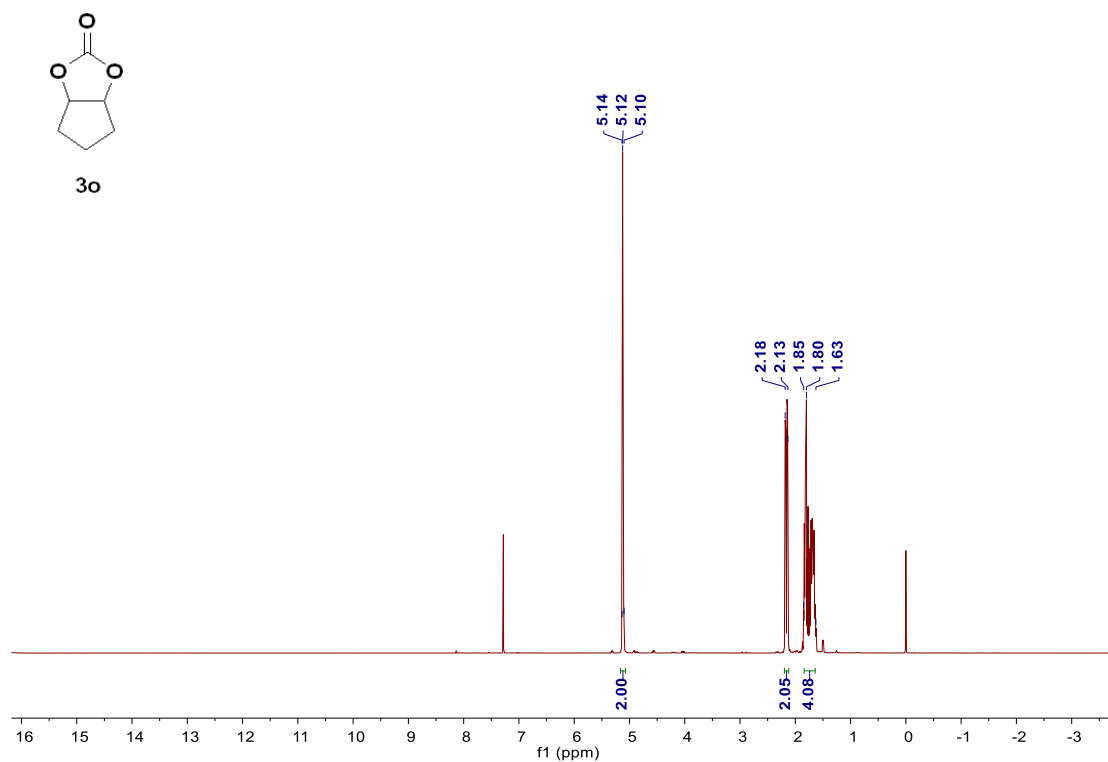


Figure S53. ¹H NMR spectra of cyclic carbonate **3o**.

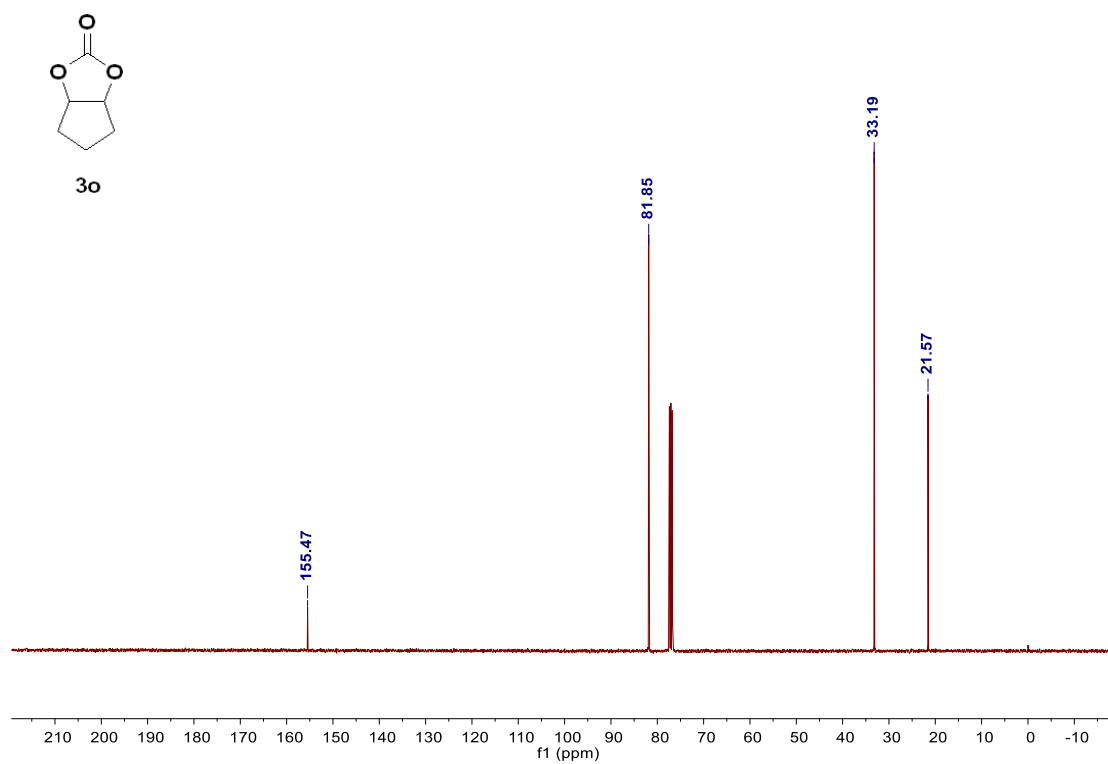


Figure S54. ¹³C NMR spectra of cyclic carbonate **3o**.

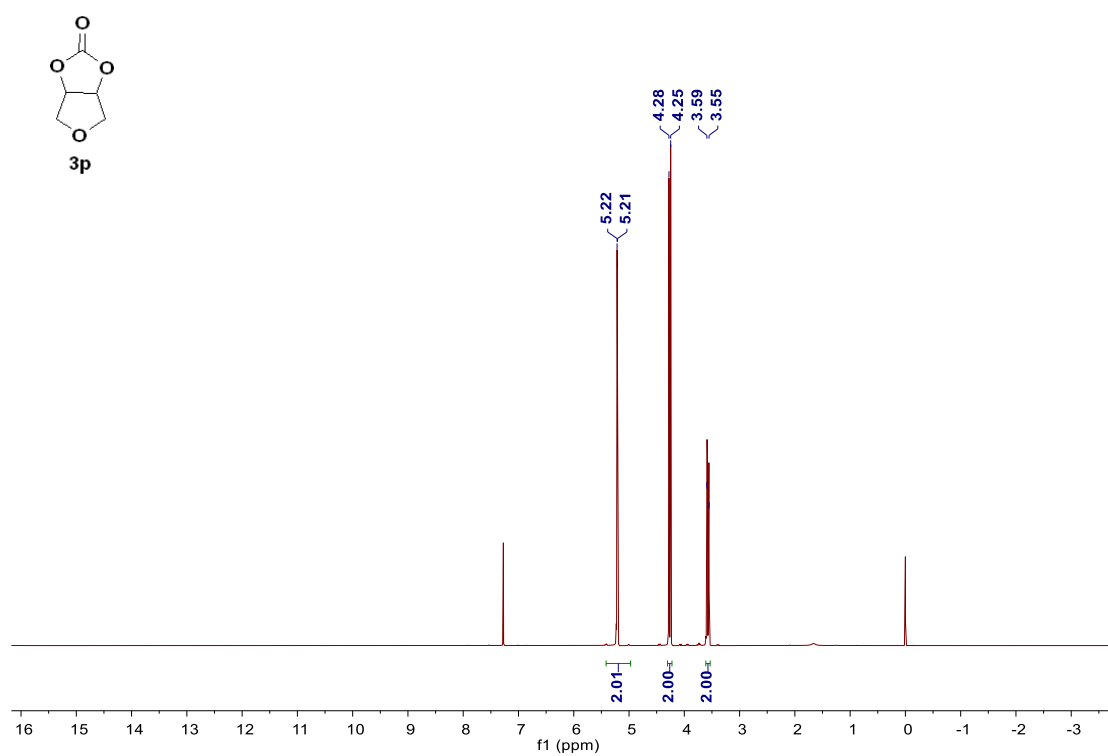


Figure S55. ¹H NMR spectra of cyclic carbonate **3p**.

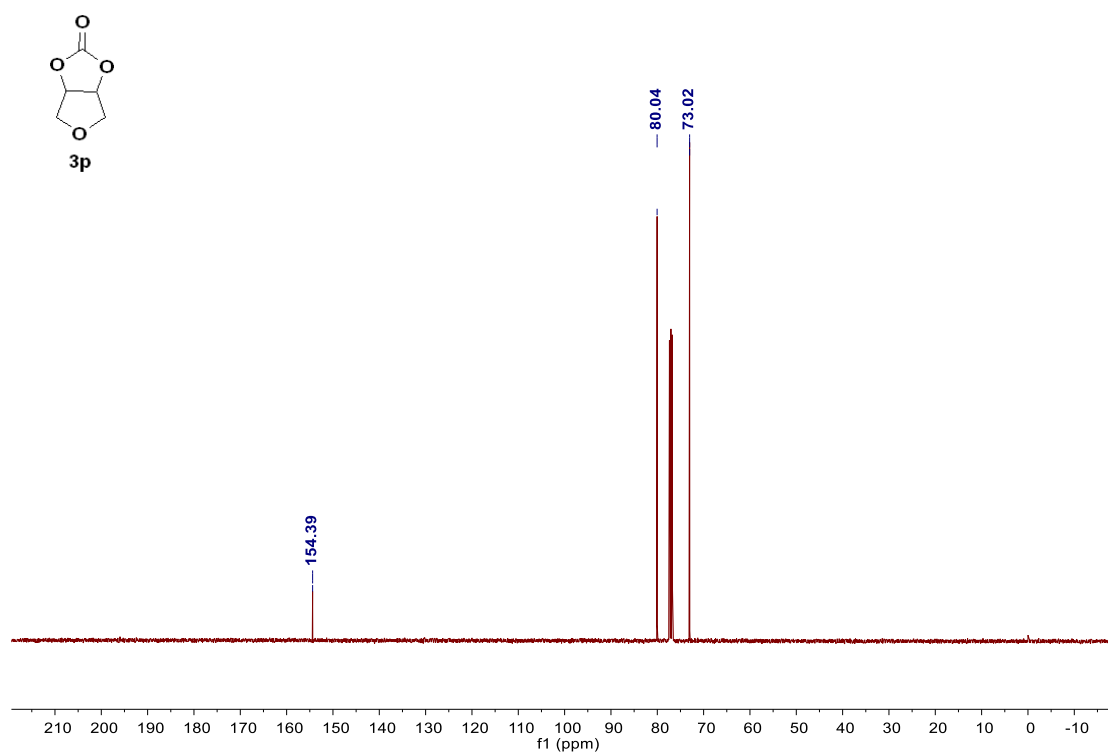


Figure S56. ¹³C NMR spectra of cyclic carbonate **3p**.